LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

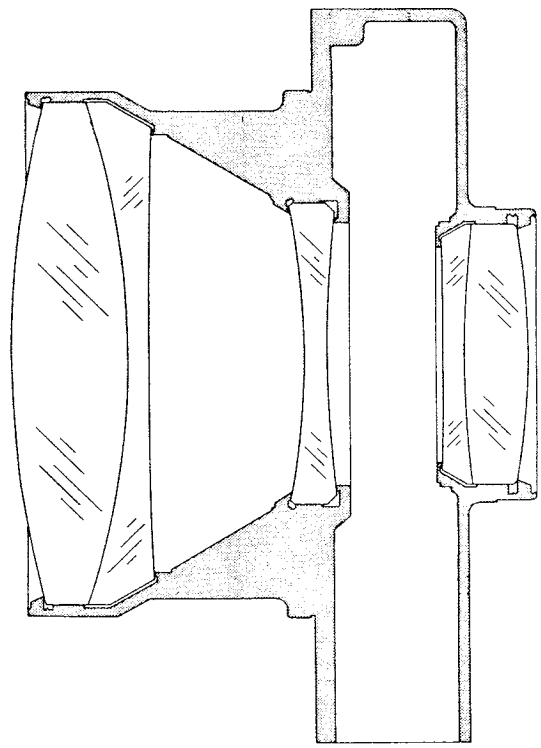
DATE
15 Sept. 1967

TYPE (MIL–STD–150A)	NAME
Type I Aerial Reconnaissance	

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
36 in.	f/10.0	18 in. x 18 in.	Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 36 in. (914.4 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 32 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 37 in.	LENS CELL DIAMETER *(Maximum)* 11 in.
SEMI–FIELD ANGLE 19°	OVERALL LENGTH 8.25 in.
RELATIVE APERTURE f/10.0	WEIGHT 24.5 lb

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
36 in.	f/10.0	18 in. x 18 in.	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	17.5	20												
AVERAGE RADIAL AND TANGENTIAL	75	50	65	30	35	35												

FILM _____ TARGET CONTRAST High FILTER _____

AWAR _____ L/mm

AVERAGE RADIAL AND TANGENTIAL																		

FILM _____ TARGET CONTRAST _____ FILTER _____

AWAR _____ L/mm

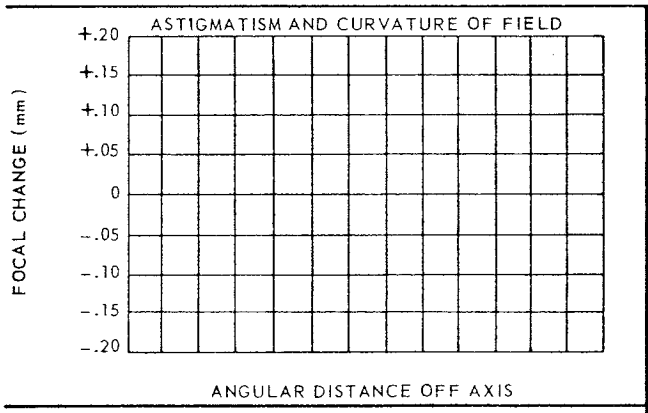
AVERAGE RADIAL AND TANGENTIAL																		

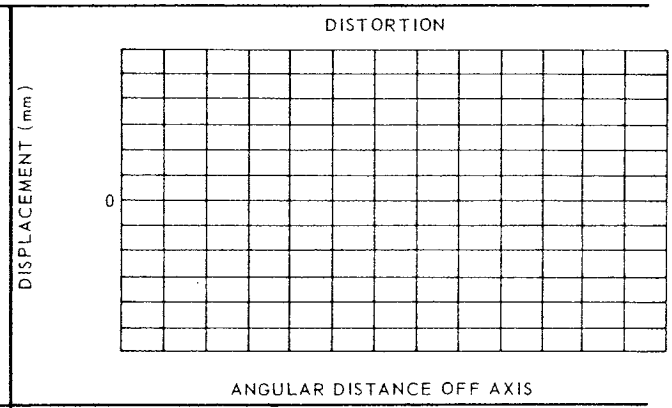
FILM _____ TARGET CONTRAST _____ FILTER _____

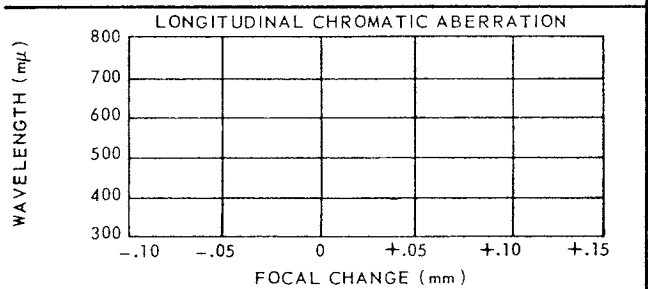
AWAR _____ L/mm

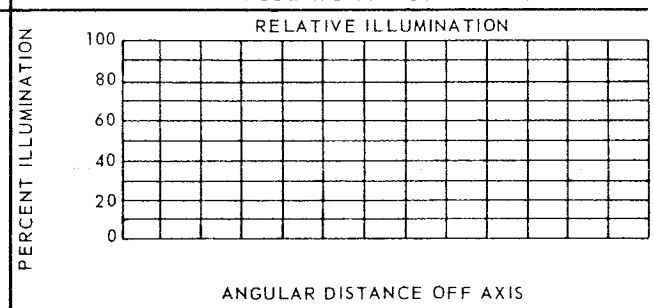
RADIAL																		
TANGENTIAL																		

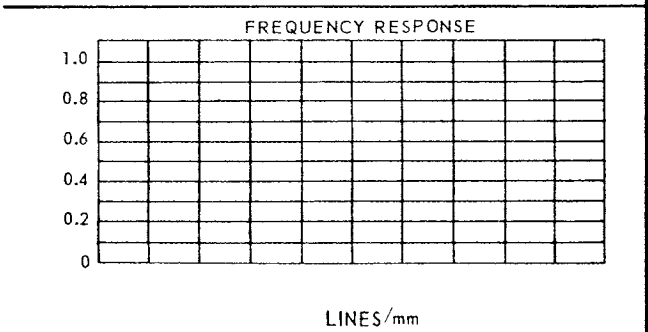
VISUAL _____ TARGET CONTRAST _____ FILTER _____

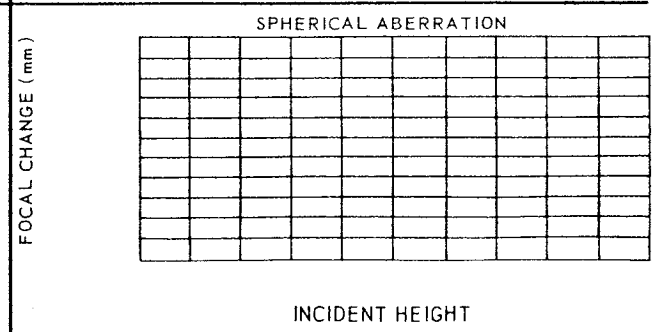












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

DATE: 15 Sept. 1967

TYPE (MIL-STD-150A)	NAME
Type I Aerial Reconnaissance	

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
48 in.	f/8.0	18.5 in. Pan	Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION

CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 48 in. (1219.2 mm)	TRANSMITTANCE:
BACK FOCAL DISTANCE: 40.831 in.	COLOR CORRECTION:
FRONT VERTEX BACK FOCAL DISTANCE:	DISTORTION *(Maximum)*:
FLANGE FOCAL DISTANCE: 49.831 in.	LENS CELL DIAMETER *(Maximum)*: 12 in.
SEMI-FIELD ANGLE: 10° 45'	OVERALL LENGTH: 16 in.
RELATIVE APERTURE: f/8.0	WEIGHT: 110 lbs (Camera 1520 lbs)

REMARKS:

Used on the following aircraft cameras: E-1 Transverse Panoramic

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
48 in.	f/8.0	18.5 in. Pan	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)

FILM Super XX TARGET CONTRAST _____ FILTER _____

RADIAL
TANGENTIAL

AWAR 30 L/mm

FILM _____ TARGET CONTRAST _____ FILTER _____

RADIAL
TANGENTIAL

AWAR _____ L/mm

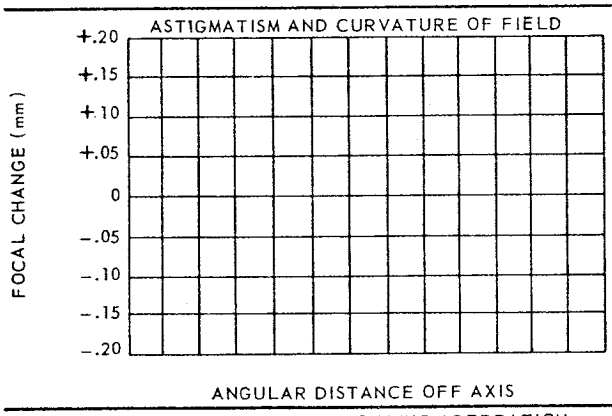
FILM _____ TARGET CONTRAST _____ FILTER _____

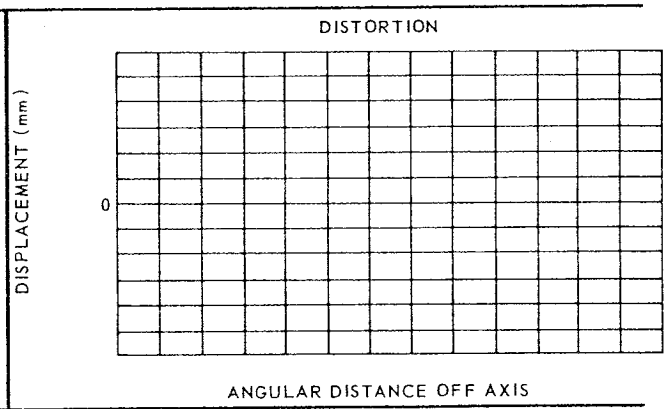
RADIAL
TANGENTIAL

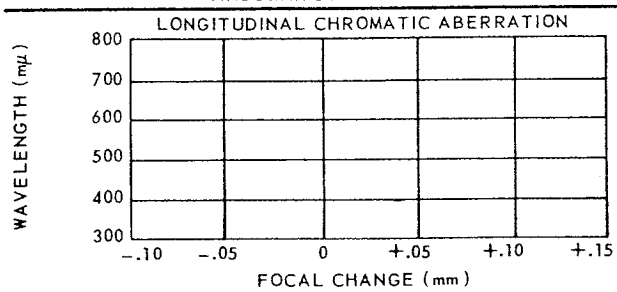
AWAR _____ L/mm

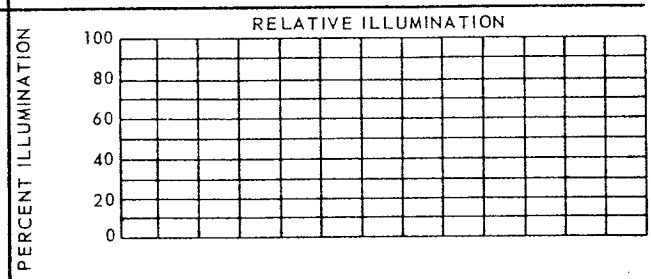
VISUAL _____ TARGET CONTRAST _____ FILTER _____

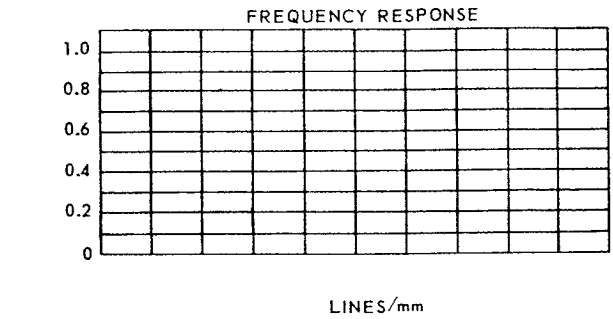
RADIAL
TANGENTIAL

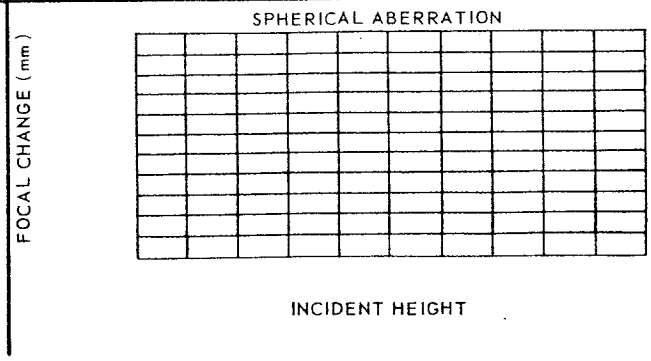












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

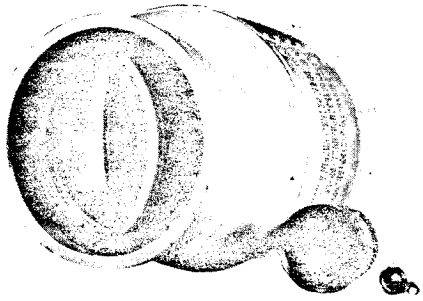
DATE: 15 Sept. 1967

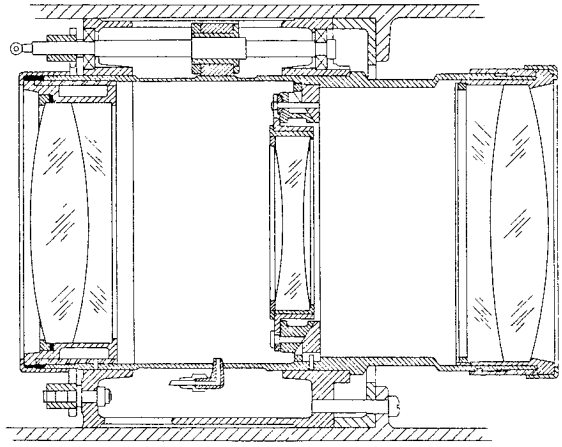
TYPE (MIL-STD-150A)	NAME
Type I Aerial Reconnaissance	Pentac Type

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
96 in.	f/8.0	18 in. x 36 in.	Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 96 in. (2438.4 mm)	TRANSMITTANCE 75%
BACK FOCAL DISTANCE 82 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE	LENS CELL DIAMETER *(Maximum)* 25.25 in.
SEMI-FIELD ANGLE 11.5°	OVERALL LENGTH 35 in.
RELATIVE APERTURE f/8.0	WEIGHT

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
96 in.	f/8.0	18 in. x 36 in.	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	2.5	5	7.5	10	11.5												

FILM Super XX Plate TARGET CONTRAST High FILTER

AVERAGE RADIAL AND TANGENTIAL	25	25	28	25	19	16												

AWAR 23 L/mm

FILM V N TARGET CONTRAST High FILTER W-12

AVERAGE RADIAL AND TANGENTIAL	48	45	42	40	25	13												

AWAR 35 L/mm

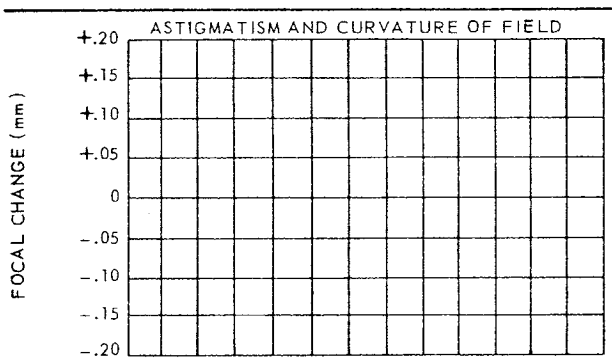
FILM TARGET CONTRAST FILTER

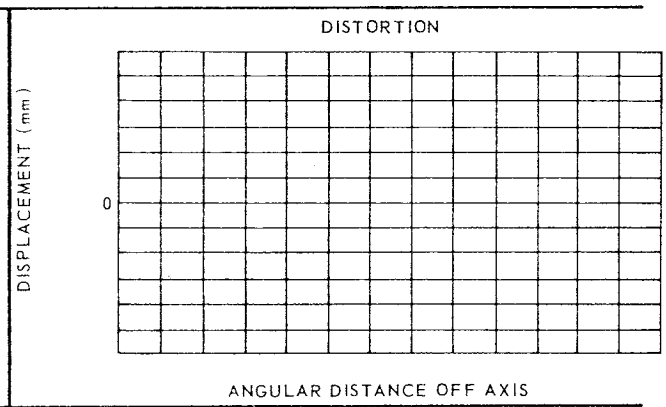
AVERAGE RADIAL AND TANGENTIAL																		

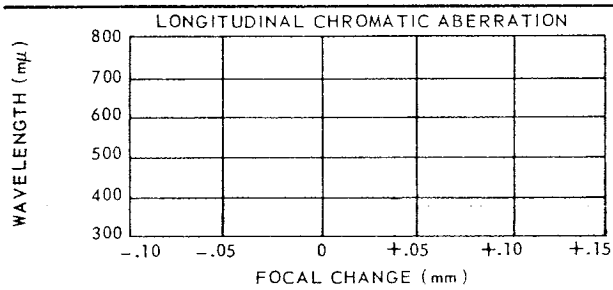
AWAR L/mm

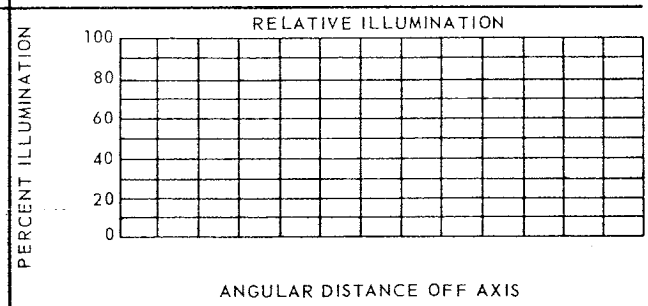
VISUAL TARGET CONTRAST FILTER

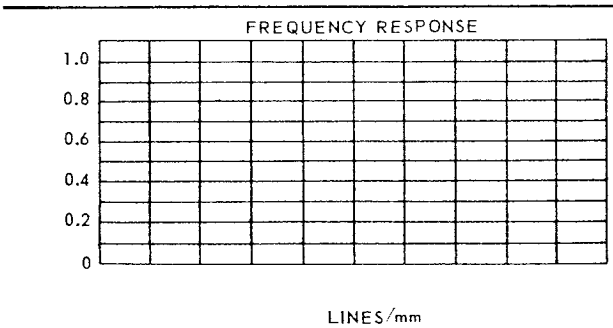
RADIAL																		
TANGENTIAL																		

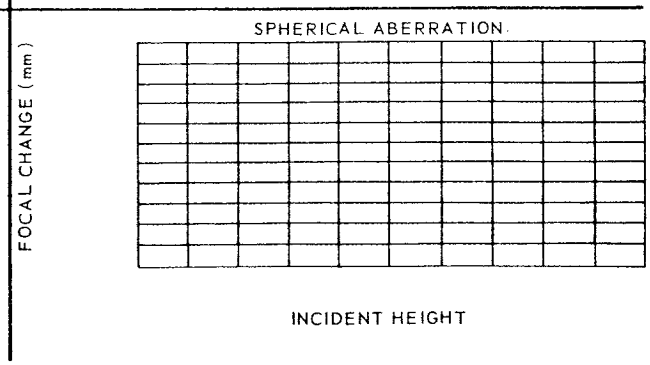












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

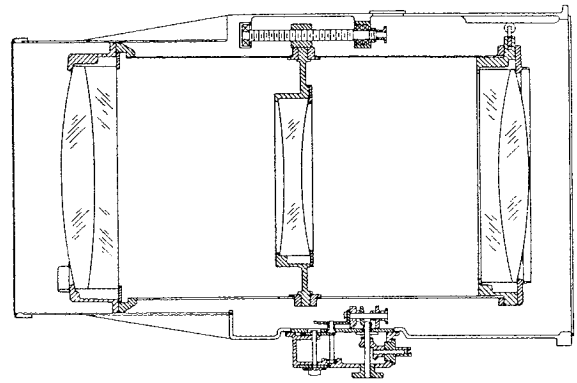
DATE: 15 Sept. 1967

TYPE (MIL-STD-150A)	NAME
Type I Aerial Reconnaissance	Pentac Type

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
144 in.	f/8.0	18 in. x 36 in.	Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS
Perkin-Elmer P/N 066-0001		

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 144 in. (3657.6 mm)	TRANSMITTANCE:
BACK FOCAL DISTANCE: 123.945 in.	COLOR CORRECTION:
FRONT VERTEX BACK FOCAL DISTANCE:	DISTORTION *(Maximum)*:
FLANGE FOCAL DISTANCE: 120 in.	LENS CELL DIAMETER *(Maximum)*: 35 in.
SEMI-FIELD ANGLE: 7.5°	OVERALL LENGTH: 51.5 in.
RELATIVE APERTURE: f/8.0	WEIGHT:

REMARKS:

Used on the following aircraft cameras: K-45

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
144 in.	f/8.0	18 in. x 36 in.	Perkin-Elmer Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	2.5	5	7.5														
AVERAGE RADIAL AND TANGENTIAL	48	44	28	37														

FILM V F TARGET CONTRAST _____ FILTER W-12

AWAR 39 L/mm

AVERAGE RADIAL AND TANGENTIAL	38	36	28	36														

FILM V F TARGET CONTRAST _____ FILTER _____

AWAR 34 L/mm

AVERAGE RADIAL AND TANGENTIAL	41	35	37	35														

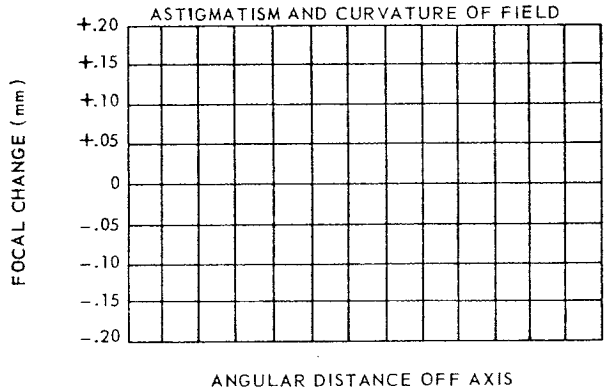
FILM V F TARGET CONTRAST _____ FILTER _____

AWAR 37 L/mm

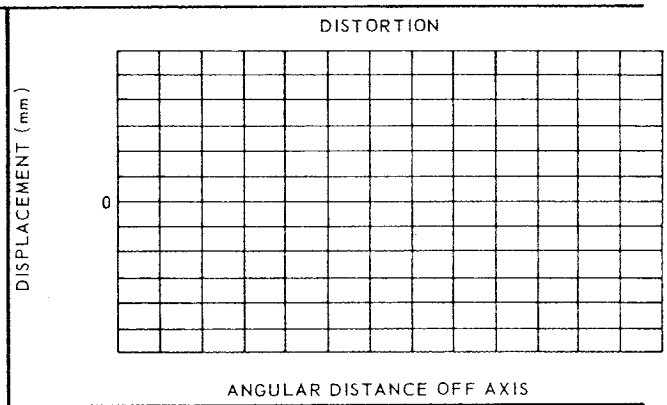
VISUAL _____ TARGET CONTRAST _____ FILTER _____

RADIAL																		
TANGENTIAL																		

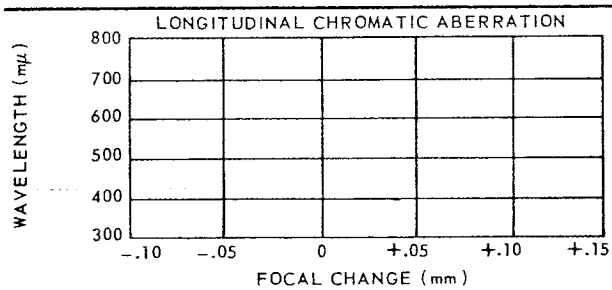
ASTIGMATISM AND CURVATURE OF FIELD



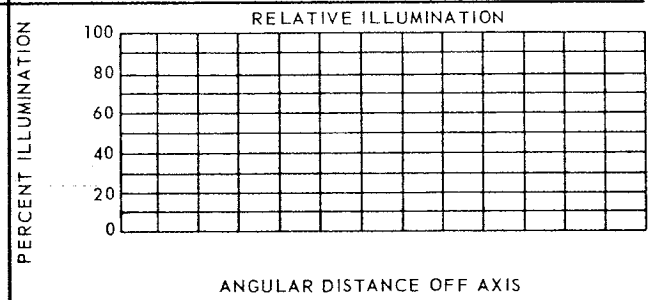
DISTORTION



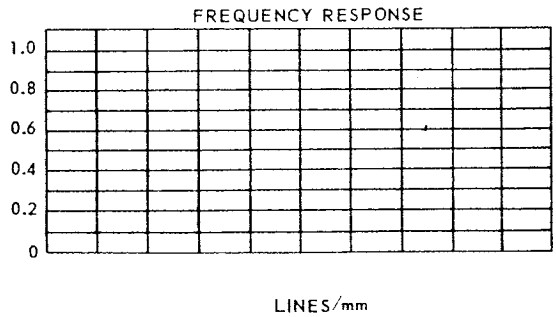
LONGITUDINAL CHROMATIC ABERRATION



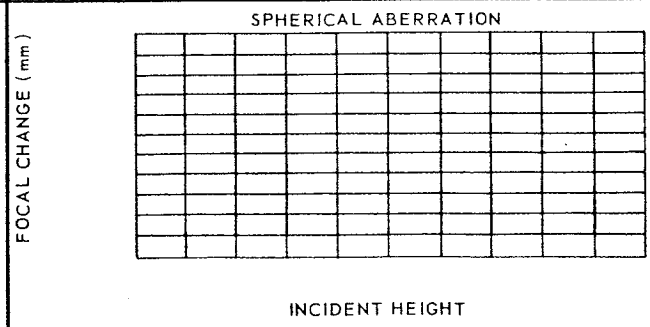
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



TYPE II
AERIAL MAPPING

LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

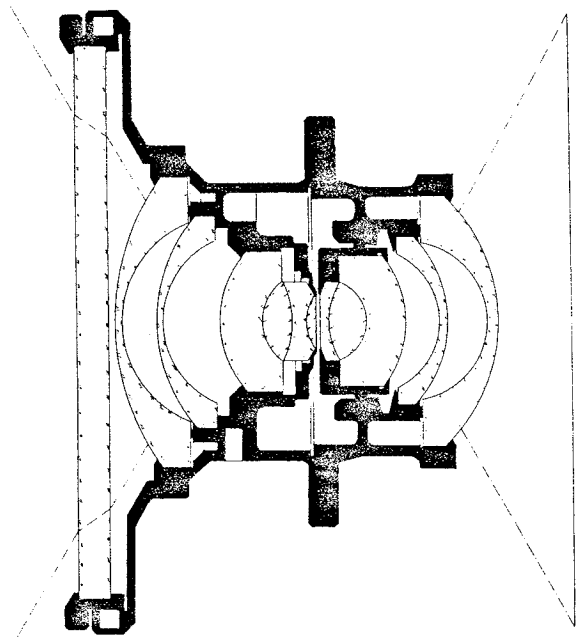
DATE: 15 Sept. 1967

TYPE (MIL-STD-150A): Type II Aerial Mapping	NAME: Super Aviogon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
1.75 in. (44 mm)	f/5.6	4.5 in. x 4.5 in.	Wild Heerbrugg Ltd.

STOCK NO.	SPECIFICATION NO.	STATUS
		Production

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 1.75 in. (44.0 mm)	TRANSMITTANCE:
BACK FOCAL DISTANCE: .69 in. (17.7 mm)	COLOR CORRECTION: Visible
FRONT VERTEX BACK FOCAL DISTANCE:	DISTORTION *(Maximum)*: ±0.011 mm
FLANGE FOCAL DISTANCE: 2.16 in. (55 mm)	LENS CELL DIAMETER *(Maximum)*: 5.9 in. (150 mm)
SEMI-FIELD ANGLE: 60°	OVERALL LENGTH: 4.13 in. (104 mm)
RELATIVE APERTURE: f/5.6	WEIGHT: 2 lbs

REMARKS:

Used on the following aircraft cameras: KA-50A, KA-76, Maurer 500, CA-101, CA-114

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
1.75 in. (44 mm)	f/5.6	4.5 in. x 4.5 in.	Wild Heerbrugg Ltd.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40	45	50	55	60					

FILM Panatomic X Aerofilm TARGET CONTRAST 1:1000 FILTER _____

RADIAL	88	86	87	76	50	35	29	32	42	67	40	13	5					
TANGENTIAL	88	86	86	76	60	54	45	42	43	45	35	22	11					

AWAR 40 L/mm

FILM _____ TARGET CONTRAST _____ FILTER _____

RADIAL																		
TANGENTIAL																		

AWAR _____ L/mm

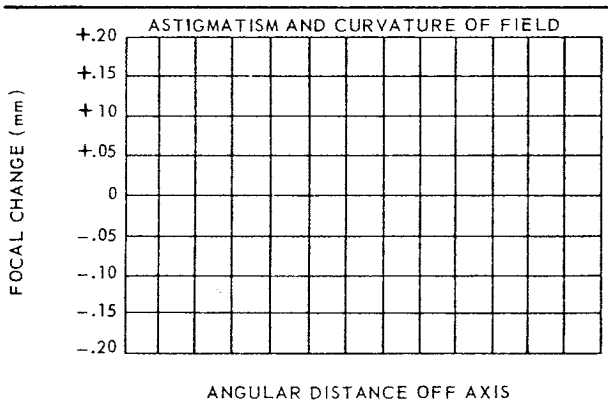
FILM _____ TARGET CONTRAST _____ FILTER _____

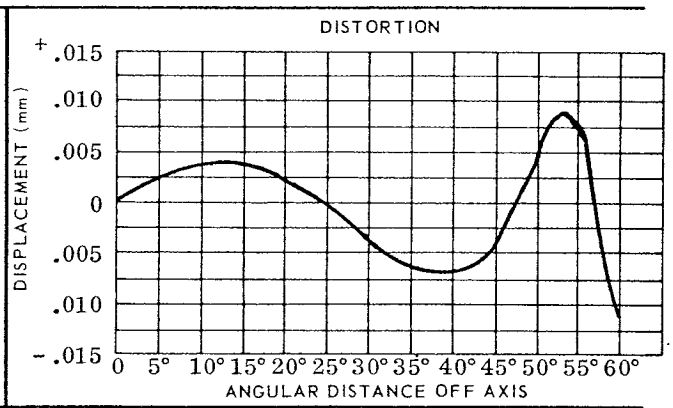
RADIAL																		
TANGENTIAL																		

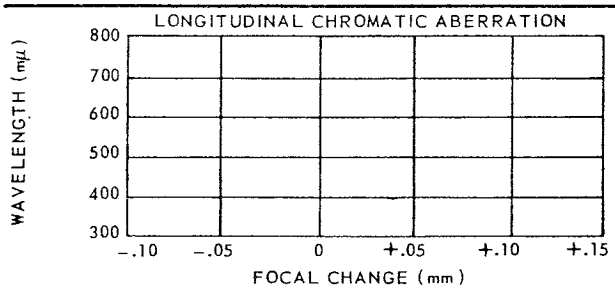
AWAR _____ L/mm

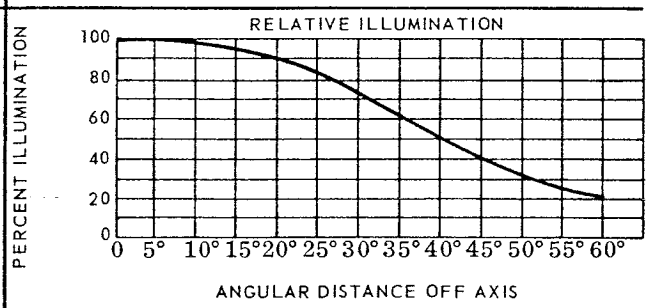
VISUAL _____ TARGET CONTRAST _____ FILTER _____

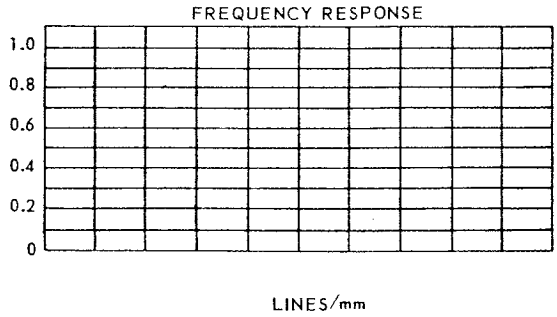
RADIAL																		
TANGENTIAL																		

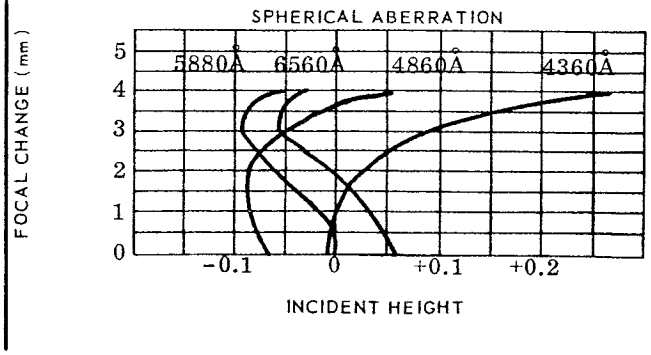












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

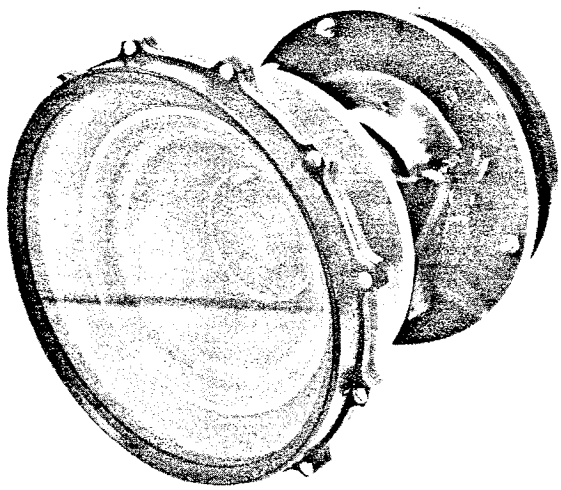
DATE
15 Sept. 1967

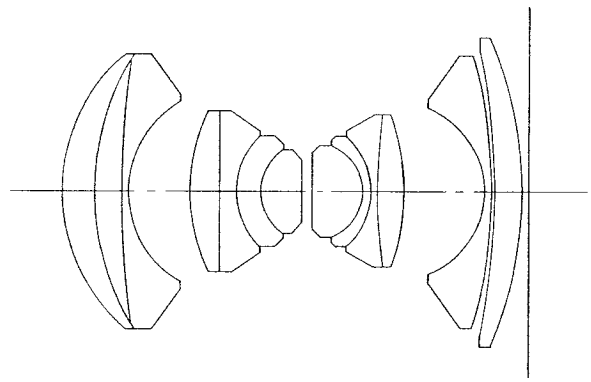
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Geocon III

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
3.0 in.	f/2.5	4.5 in. x 4.5 in.	Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS
		Development

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 3.0 in. (76.18 mm)	TRANSMITTANCE 70%
BACK FOCAL DISTANCE 0.11 in. (2.31 mm)	COLOR CORRECTION 5000 - 7000 Å
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)* ± 20 microns Radial ± 8 microns Tangential
FLANGE FOCAL DISTANCE 1.525 in. (38.73 mm)	LENS CELL DIAMETER *(Maximum)* 8.85 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 8.5 in.
RELATIVE APERTURE f/2.5	WEIGHT 27 lbs.

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
3.0 in.	f/2.5	4.5 in. x 4.5 in.	Perkin-Elmer Corp.

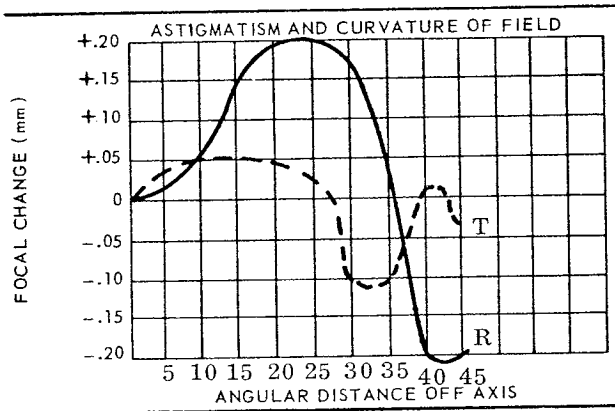
Photographic Resolving Power in Lines /mm

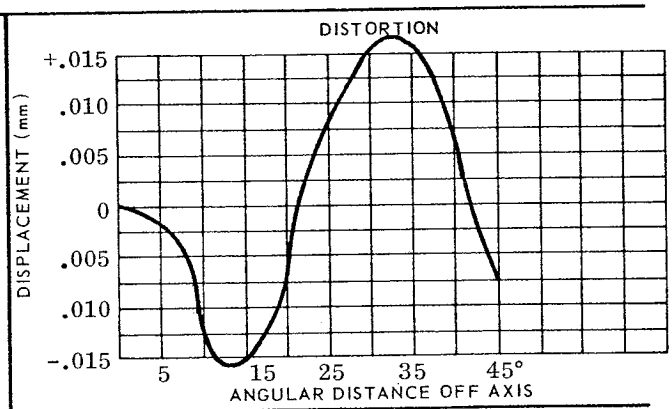
FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40	45								
FILM: Plus X Aercon; TARGET CONTRAST: ; FILTER:																		
RADIAL	40	42	47	52	45	41	47	56	31	20								
TANGENTIAL	40	40	38	50	42	37	43	36	21	13								
FILM: Microfile; TARGET CONTRAST: ; FILTER:																		
RADIAL	60	72	101	90	96	85	41	43	28	15								
TANGENTIAL	77	80	103	130	102	110	106	70	32	20								
FILM: ; TARGET CONTRAST: ; FILTER:																		
RADIAL																		
TANGENTIAL																		
VISUAL: ; TARGET CONTRAST: ; FILTER:																		
RADIAL																		
TANGENTIAL																		

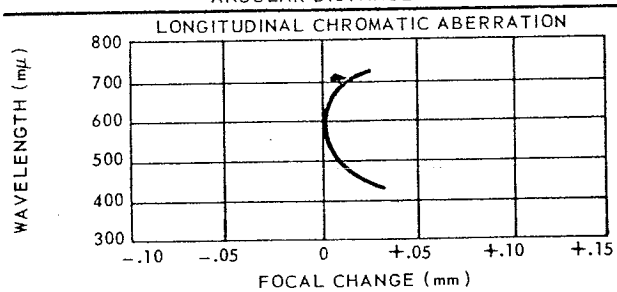
AWAR 41 L/mm

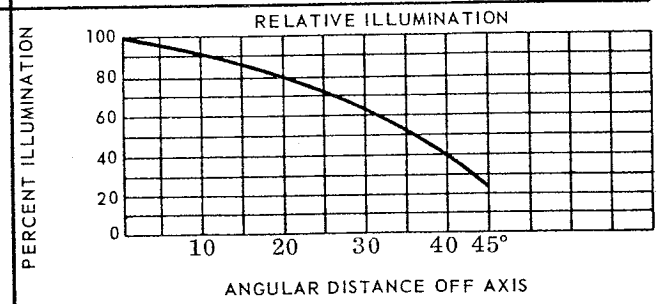
AWAR 63 L/mm

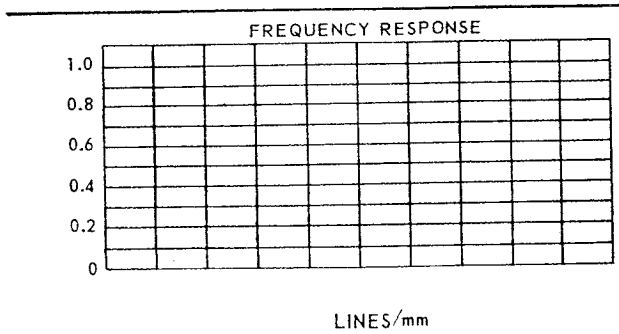
AWAR ____ L/mm

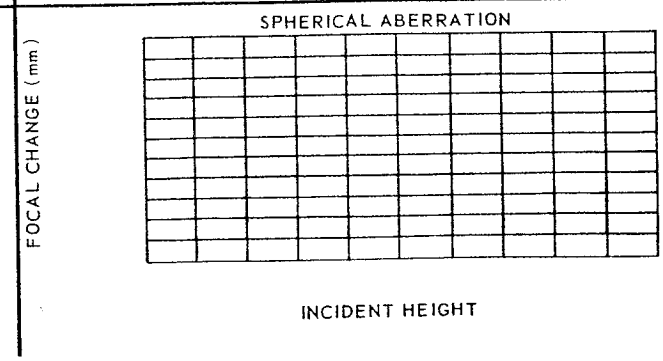












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

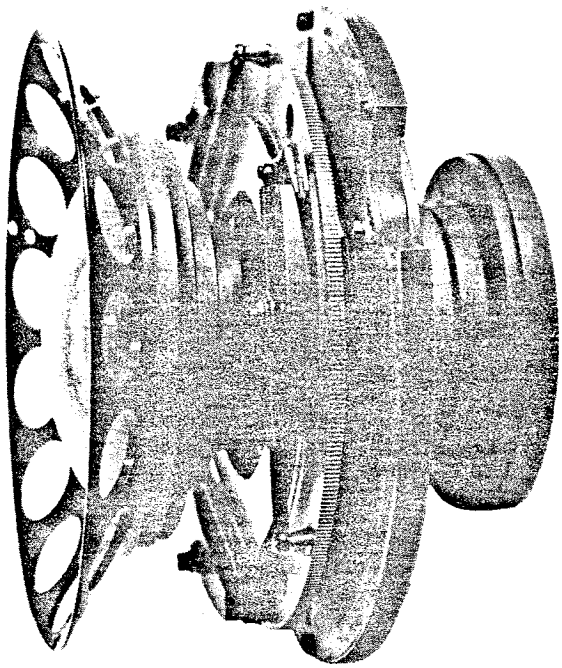
DATE
15 Sept. 1967

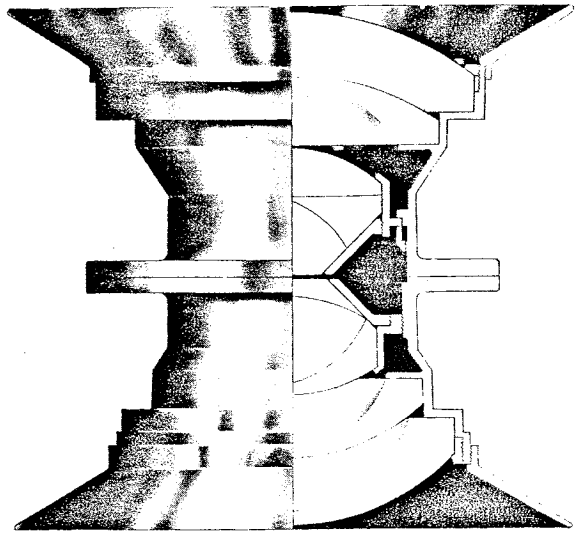
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Super Aviogon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
3.5 in. (88 mm)	f/5.6	9 in. x 9 in.	Wild Heerbrugg Ltd.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 3.5 in. (88.265 mm)	TRANSMITTANCE 61%
BACK FOCAL DISTANCE 1.222 in.	COLOR CORRECTION Visible
FRONT VERTEX BACK FOCAL DISTANCE	DISTORTION *(Maximum)* 0.10 mm
FLANGE FOCAL DISTANCE 4.5 in. (114.5 mm)	LENS CELL DIAMETER *(Maximum)* 8.27 in. (210 mm)
SEMI-FIELD ANGLE 60°	OVERALL LENGTH 7.24 in. (184 mm)
RELATIVE APERTURE f/5.6	WEIGHT 19 lbs

REMARKS:

Used on the following aircraft cameras: KC-3, RC-9

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
3.5 in. (88 mm)	f/5.6	9 in. x 9 in.	Wild Heerbrugg Ltd.

Photographic Resolving Power in Lines /mm

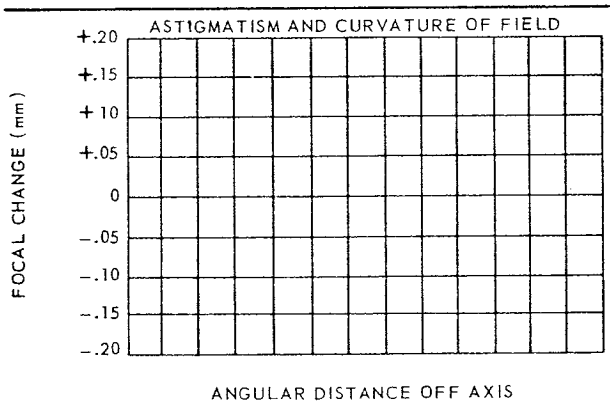
FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40	45	50	55						
FILM Super XX — TARGET CONTRAST High — FILTER W-12																		
RADIAL	43	45	54	56	46	31	26	26	47	24	11	4						
TANGENTIAL	43	38	53	45	40	32	26	23	27	22	17	9						
FILM SO1213 — TARGET CONTRAST High — FILTER																		
RADIAL	86	91	85	133	91	70	53	79	105	31	37	30						
TANGENTIAL	109	86	83	90	76	63	52	58	57	34	22	17						
FILM V-F Glass Plate — TARGET CONTRAST High — FILTER W-12																		
RADIAL	63	63	75	75	63	27	23	23	46	53	23	14						
TANGENTIAL	63	63	75	75	53	46	46	27	39	23	14	11						
VISUAL — TARGET CONTRAST — FILTER																		
RADIAL																		
TANGENTIAL																		

AWAR 24 L/mm

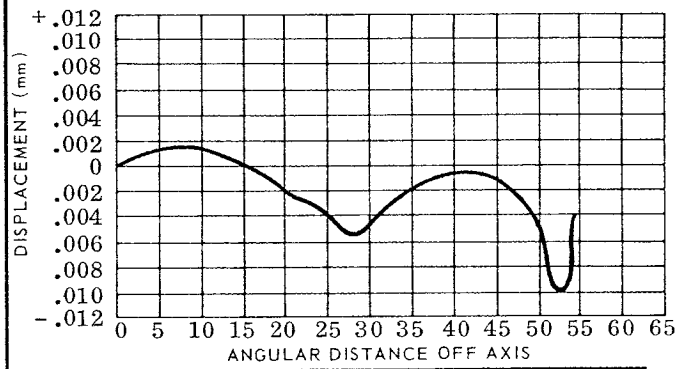
AWAR 54 L/mm

AWAR _____ L/mm

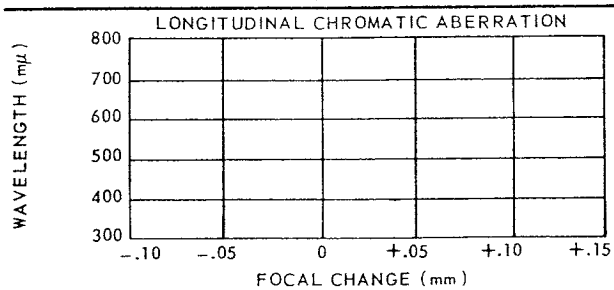
ASTIGMATISM AND CURVATURE OF FIELD



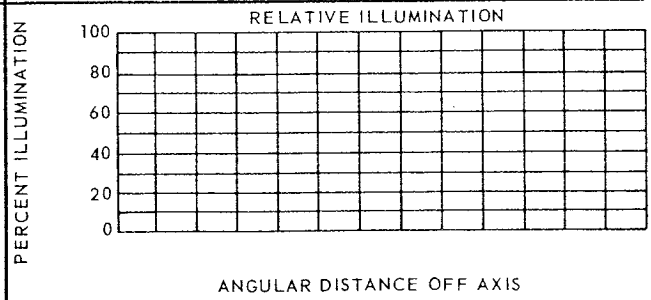
DISTORTION



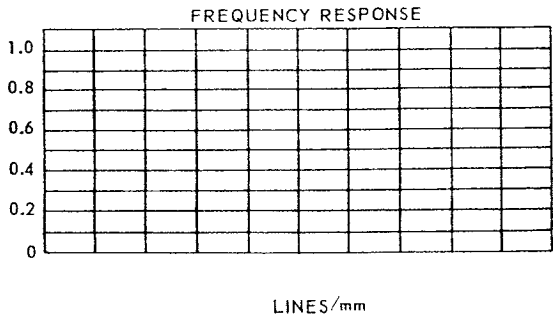
LONGITUDINAL CHROMATIC ABERRATION



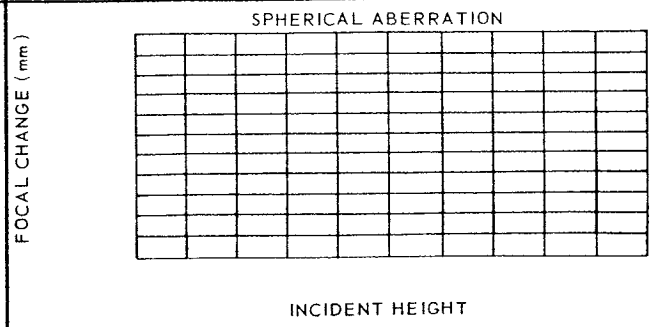
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

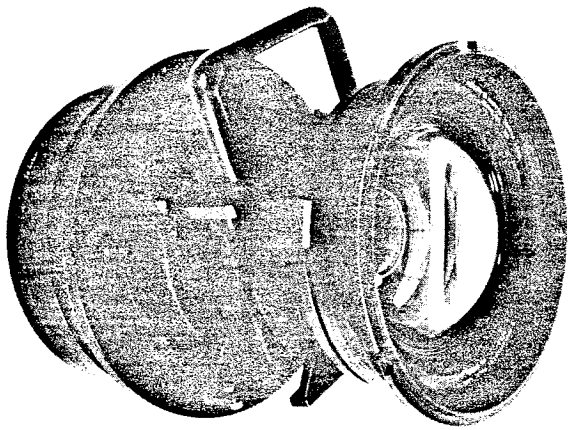
DATE
15 Sept. 1967

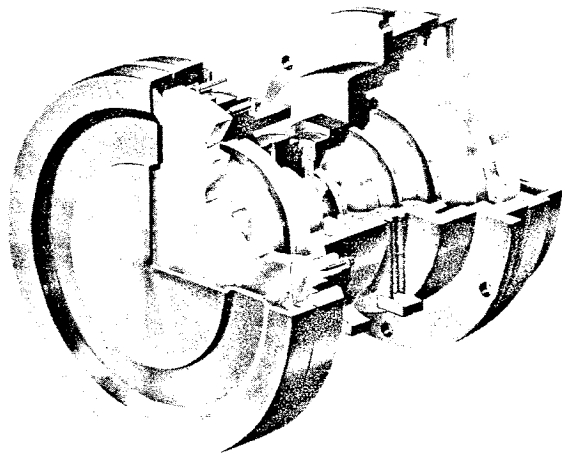
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Geocon IV B

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6.0 in.	f/5.0	9.0 in. x 9.0 in.	Kollsman Instrument Corp.

STOCK NO.	SPECIFICATION NO.	STATUS
		Production

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (152.4 mm)	TRANSMITTANCE T.9 (with anti-vignetting filter)
BACK FOCAL DISTANCE 2.024 in. (51.4 mm)	COLOR CORRECTION 5000 - 7000 Å
FRONT VERTEX BACK FOCAL DISTANCE 10.25 in.	DISTORTION *(Maximum)* (Radial and 8 microns Tangential)
FLANGE FOCAL DISTANCE 3.7 in.	LENS CELL DIAMETER *(Maximum)* 9.5 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 9.6 in. (with filter)
RELATIVE APERTURE f/5.0	WEIGHT 39 lbs.

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6.0 in.	f/5.0	9.0 in. x 9.0 in.	Kollsman Instrument Corp.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	7.5	15	22.5	27.5	30	32.5	35	37.5	40	42.5	45						

FILM 5401 TARGET CONTRAST High FILTER W-12

RADIAL	48	54	51	44	48	45	48	42	29	34	29	26						
TANGENTIAL	50	54	63	55	50	47	47	43	38	39	37	34						

AWAR 46 L/mm

FILM _____ TARGET CONTRAST _____ FILTER _____

RADIAL																		
TANGENTIAL																		

AWAR _____ L/mm

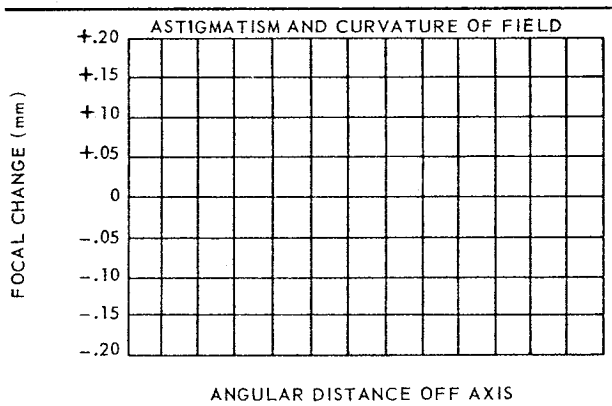
FILM _____ TARGET CONTRAST _____ FILTER _____

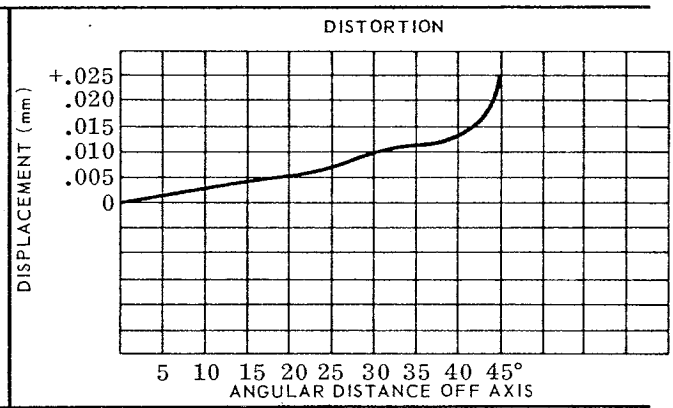
RADIAL																		
TANGENTIAL																		

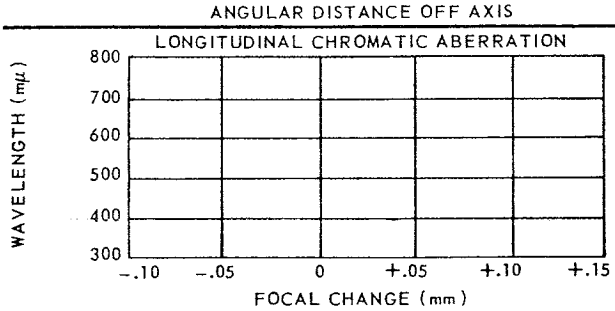
AWAR _____ L/mm

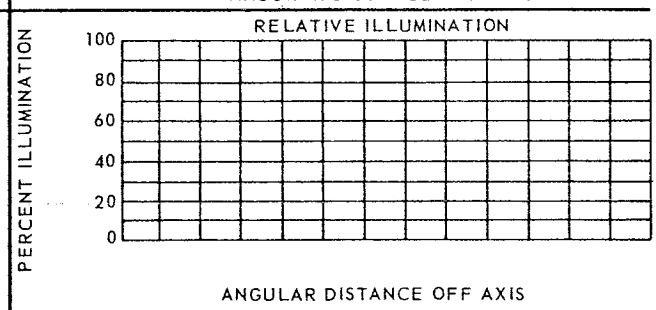
VISUAL _____ TARGET CONTRAST _____ FILTER _____

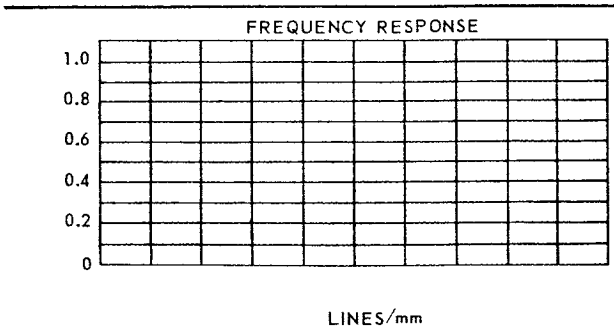
RADIAL																		
TANGENTIAL																		

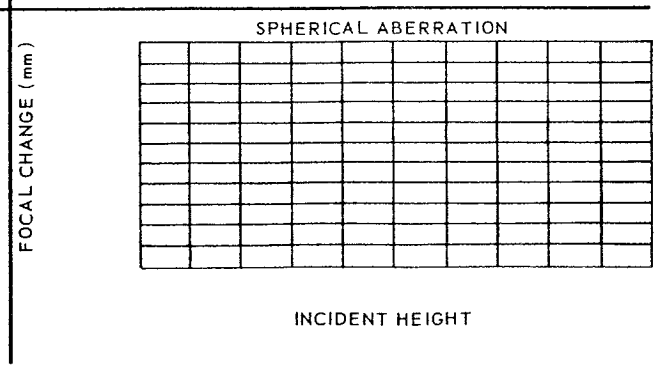












LENS DATA INFORMATION SHEET

(Reference MIL–STD–150A for definition of terms and methods of measurement)

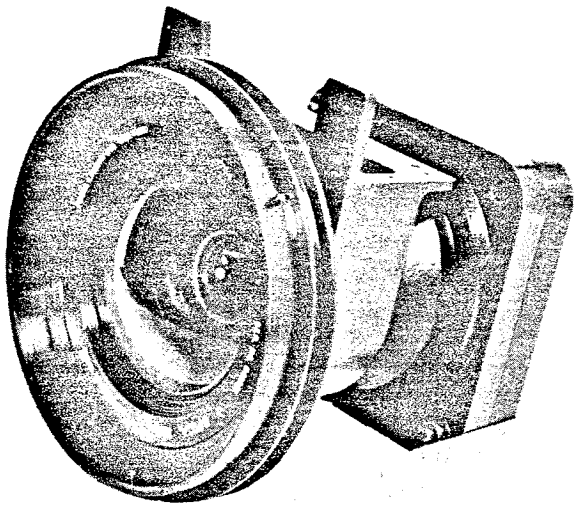
DATE: 15 Sept. 1967

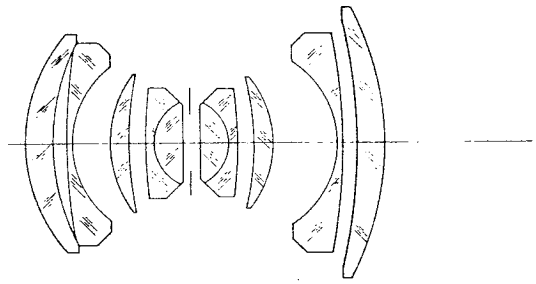
TYPE (MIL–STD–150A)	NAME
Type II Aerial Mapping	Geocon I

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	J. G. Baker

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 6 in. (152.085 mm)	TRANSMITTANCE: 62% (Without filter)
BACK FOCAL DISTANCE: 2.92 in. (74.2 mm)	COLOR CORRECTION: 5461–6563 Å
FRONT VERTEX BACK FOCAL DISTANCE: 9.4 in.	DISTORTION *(Maximum)*: ± 7.5 Microns
FLANGE FOCAL DISTANCE: 3.95 in.	LENS CELL DIAMETER *(Maximum)*:
SEMI–FIELD ANGLE: 45°	OVERALL LENGTH: 6.5 in.
RELATIVE APERTURE: f/5.6	WEIGHT:

REMARKS:

Used on the following aircraft cameras: KC-4

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	J. G. Baker

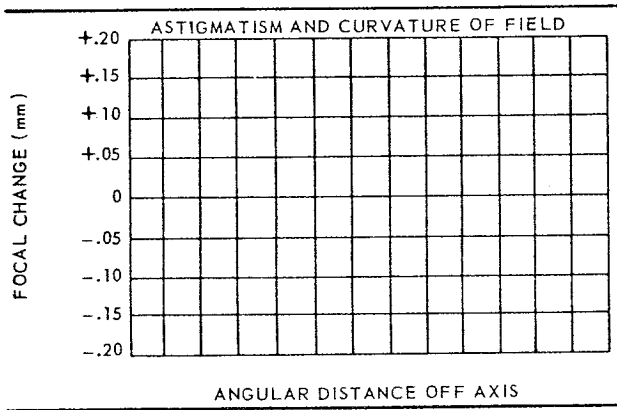
Photographic Resolving Power in Lines /mm

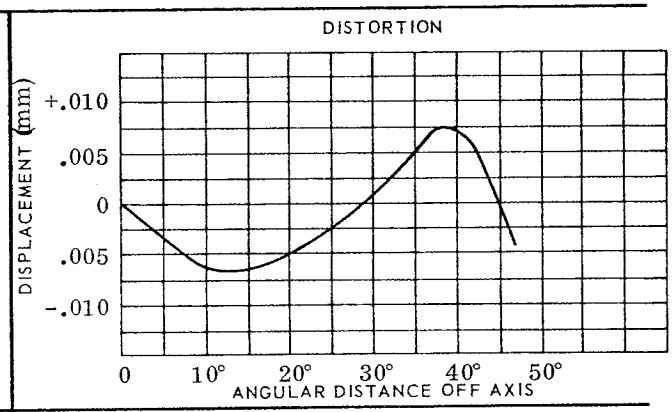
FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40	45								
FILM Plus X, TARGET CONTRAST High, FILTER W-12																		
RADIAL	42	45	41	46	54	49	47	37	26	29								
TANGENTIAL	38	38	41	40	40	40	36	28	17	15								
FILM SO-213, TARGET CONTRAST High, FILTER																		
RADIAL	70	74	78	71	94	71	61	51	40	37								
TANGENTIAL	100	80	64	74	63	44	42	35	33	35								
FILM SO-213, TARGET CONTRAST Low, FILTER																		
RADIAL	56	47	53	51	53	53	46	41	32	33								
TANGENTIAL	40	47	46	49	40	33	35	23	22	24								
VISUAL, TARGET CONTRAST, FILTER																		
RADIAL																		
TANGENTIAL																		

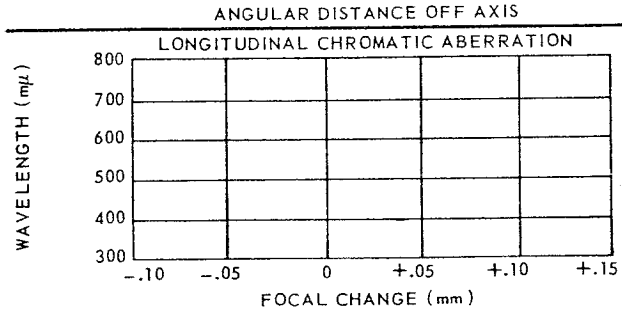
AWAR 40 L/mm

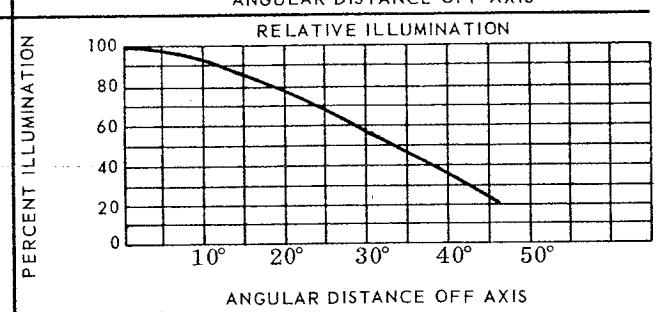
AWAR 54 L/mm

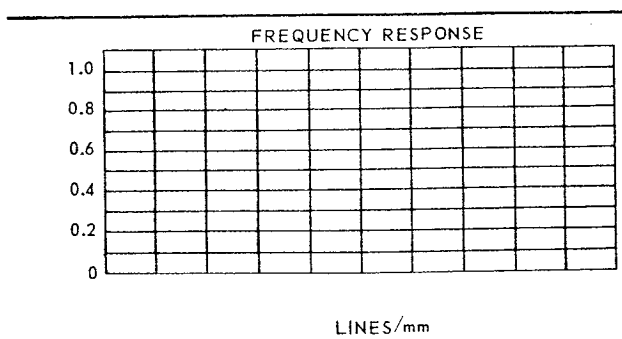
AWAR 38 L/mm

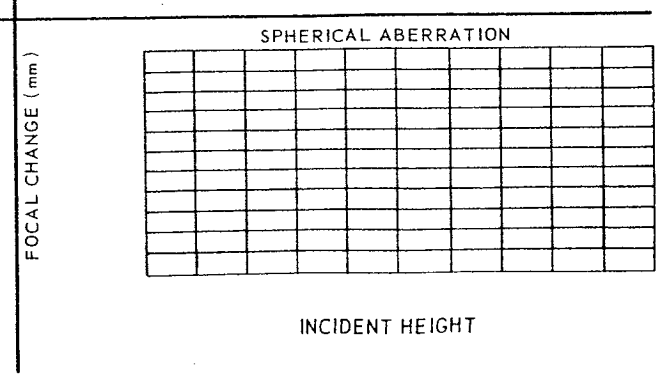












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

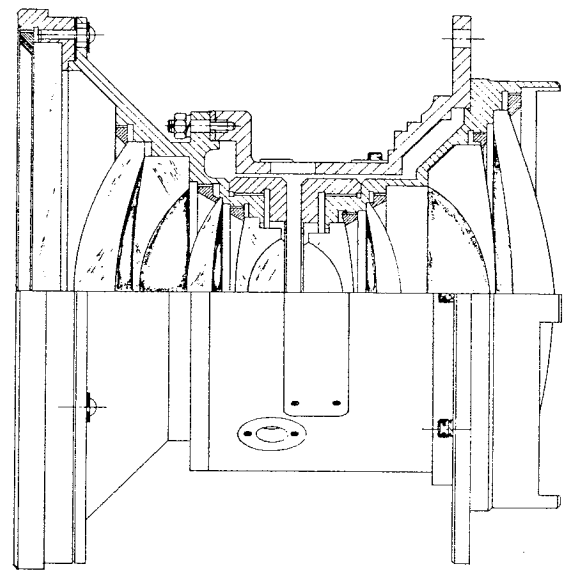
DATE
15 Sept. 1967

TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Geocon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	Fairchild Space & Defense Systems, El Segundo

STOCK NO.	SPECIFICATION NO.	STATUS
Fairchild P/N 13212-AD		Production

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (152.4 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 2.9432 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 9.3901 in.	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 3.930 ± .030 in.	LENS CELL DIAMETER *(Maximum)* 7.625 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 7.390 in.
RELATIVE APERTURE f/5.6	WEIGHT 15 lbs with filter

REMARKS:

Used on the following aircraft camera: KC-4

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	Fairchild Space & Defense Systems, El Segundo

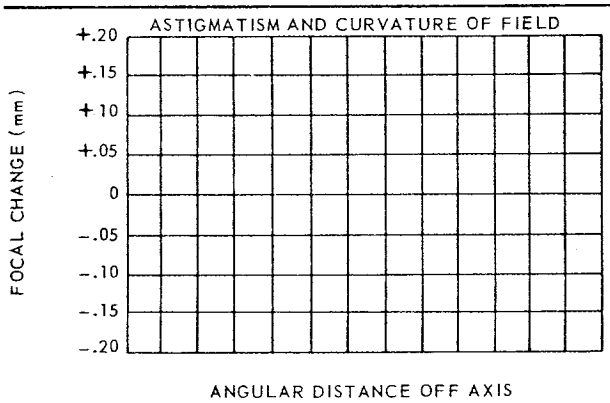
Photographic Resolving Power in Lines /mm

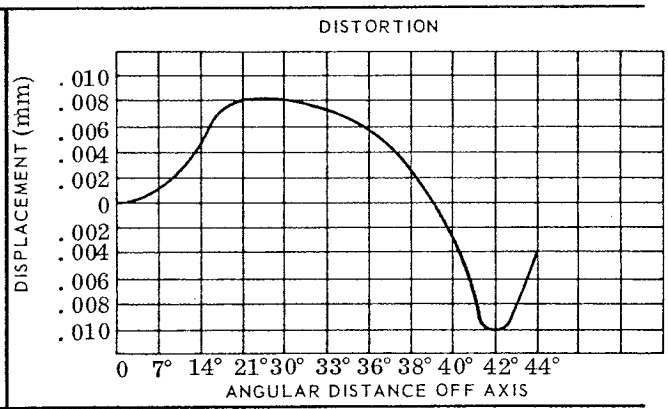
FIELD ANGLE (°)	0	10	20	30	35	40	42.5	45										
FILM 8401 TARGET CONTRAST 1000:1 FILTER W-12																		
RADIAL	57	63	67	70	50	37	42	40										
TANGENTIAL	57	50	43	39	29	20	27	25										
FILM ___ TARGET CONTRAST ___ FILTER ___																		
RADIAL																		
TANGENTIAL																		
FILM ___ TARGET CONTRAST ___ FILTER ___																		
RADIAL																		
TANGENTIAL																		
VISUAL ___ TARGET CONTRAST ___ FILTER ___																		
RADIAL																		
TANGENTIAL																		

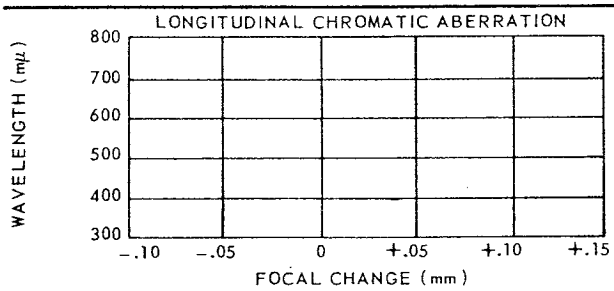
AWAR 46 L/mm

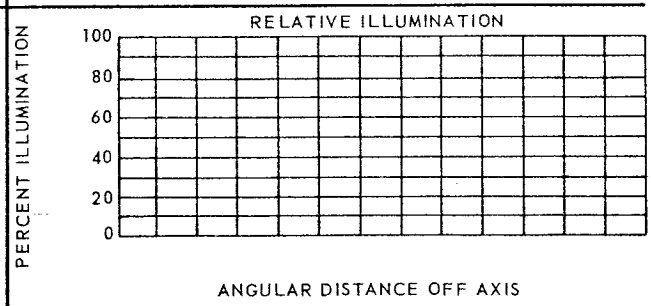
AWAR ___ L/mm

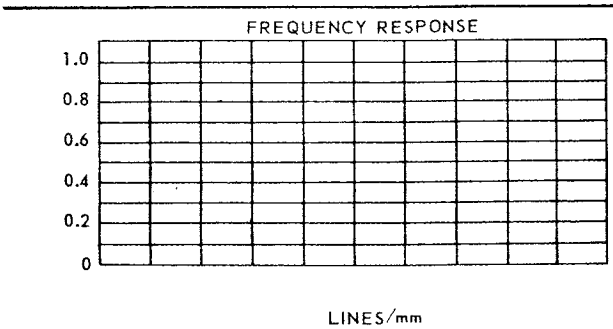
AWAR ___ L/mm

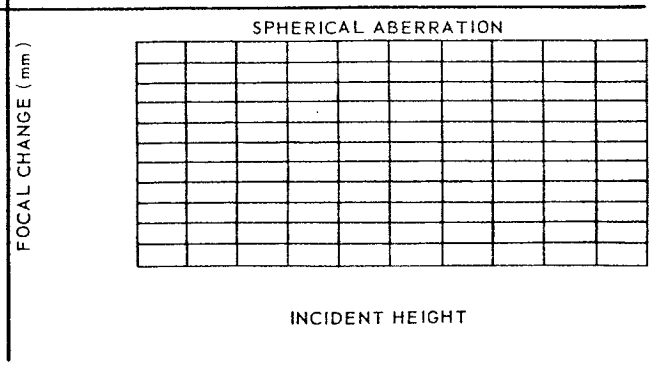












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

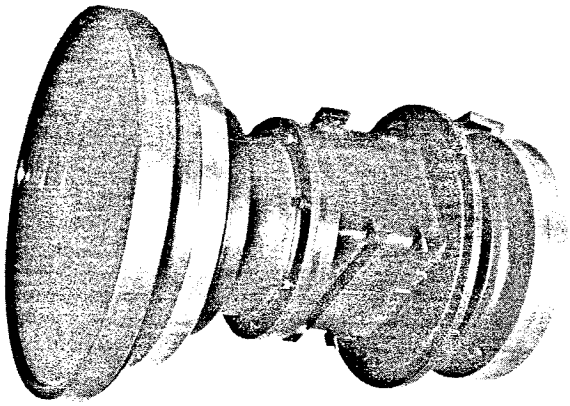
DATE: 15 Sept. 1967

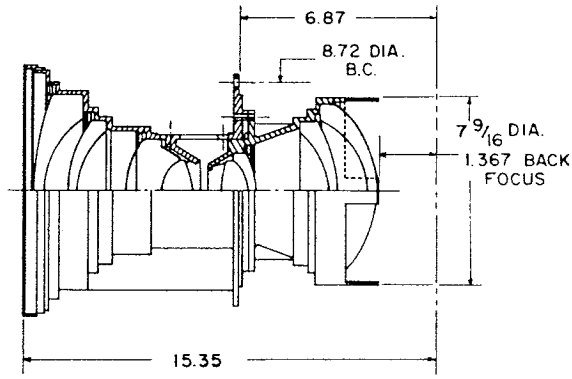
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	MAP 880

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	Perkin-Elmer Corp.

STOCK NO.	SPECIFICATION NO.	STATUS
		Current

GENERAL DESCRIPTION





CHARACTERISTICS

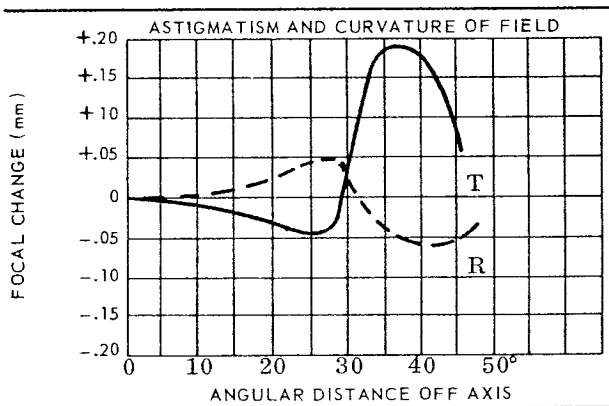
EQUIVALENT FOCAL LENGTH 6 in. (152.4 mm)	TRANSMITTANCE (T 16.3)
BACK FOCAL DISTANCE 1.367 in. (34.7 mm)	COLOR CORRECTION 5461-6563 Å
FRONT VERTEX BACK FOCAL DISTANCE 15 in. (381.0 mm)	DISTORTION *(Maximum)* 8 microns
FLANGE FOCAL DISTANCE 6.85 in. (174 mm)	LENS CELL DIAMETER *(Maximum)* 10.3 in. (263 mm)
SEMI-FIELD ANGLE 46°	OVERALL LENGTH 14.1 in. (360 mm)
RELATIVE APERTURE f/5.6	WEIGHT 50.4 lbs. (in meehanite cell)

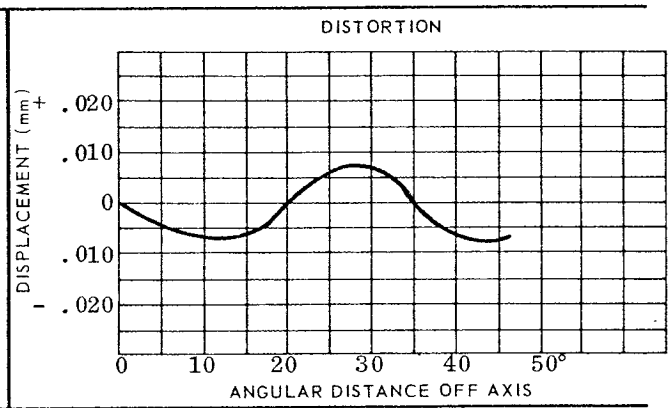
REMARKS:

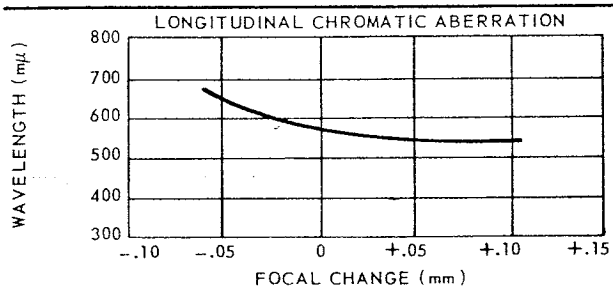
FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	Perkin-Elmer Corp.

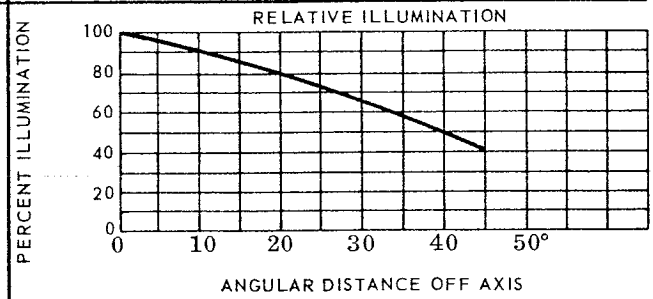
Photographic Resolving Power in Lines /mm

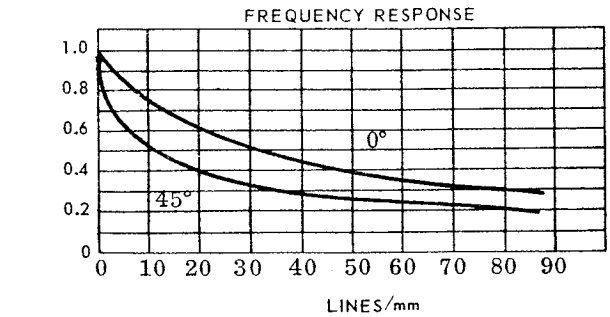
FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40	45								
FILM Plus X 8401 TARGET CONTRAST 1000:1 FILTER W 12																		
RADIAL	67	67	60	60	60	65	65	58	62	53								
TANGENTIAL	67	60	52	50	42	47	50	50	33	36								
AWAR 53 L/mm																		
FILM ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		
AWAR ____ L/mm																		
FILM VF TARGET CONTRAST 1000:1 FILTER W 12																		
RADIAL	108	108	108	108	108	96	96	88	76	76								
TANGENTIAL	108	108	108	96	76	88	88	54	44	62								
AWAR 82 L/mm																		
VISUAL ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		

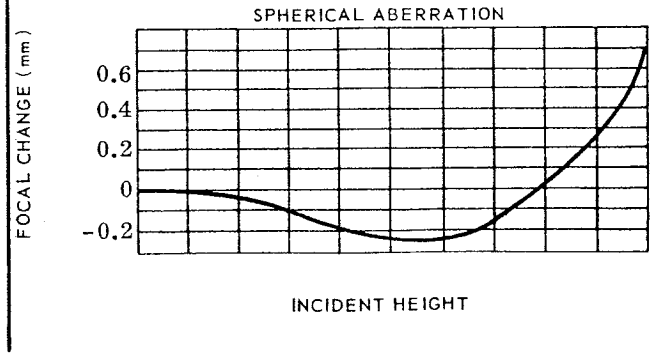












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

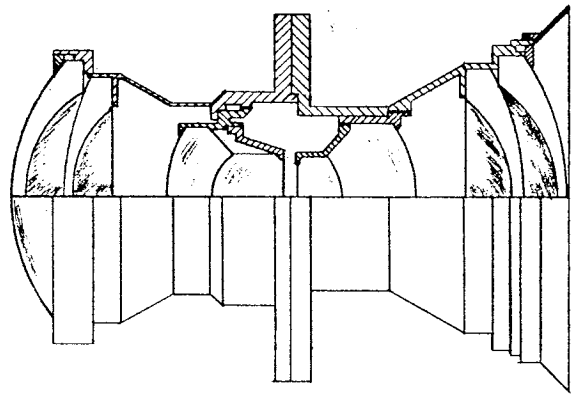
DATE: 15 Sept. 1967

TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Aviogon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	Wild Heerbrugg Ltd.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 6 in. (152.4 mm)	TRANSMITTANCE: 64% (T-7.0)
BACK FOCAL DISTANCE:	COLOR CORRECTION:
FRONT VERTEX BACK FOCAL DISTANCE:	DISTORTION *(Maximum)*: 10 Microns
FLANGE FOCAL DISTANCE: 8.19 in. (208 mm)	LENS CELL DIAMETER *(Maximum)*: 8 in. (205 mm)
SEMI-FIELD ANGLE: 45°	OVERALL LENGTH: 12 in. (320 mm)
RELATIVE APERTURE: f/5.6	WEIGHT:

REMARKS:

Used on the following aircraft cameras: KC-7, RC-8

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/5.6	9 in. x 9 in.	Wild Heerbrugg Ltd.

Photographic Resolving Power in Lines /mm

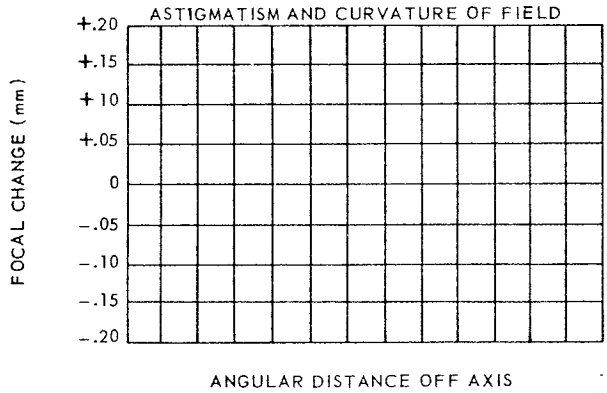
FIELD ANGLE (°)	0	5	10	15	20	25	30	35	40	45								
FILM Super X TARGET CONTRAST High FILTER W-12																		
RADIAL	50	56	42	51	34	31	37	41	19	7								
TANGENTIAL	56	44	41	37	33	34	30	23	21	10								
FILM Agfa Isopan TARGET CONTRAST ____ FILTER ____																		
RADIAL	53	53	52	51	49	43	51	49	26	8								
TANGENTIAL	53	53	51	49	52	49	44	30	31	15								
FILM ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		
VISUAL ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		

AWAR 33 L/mm

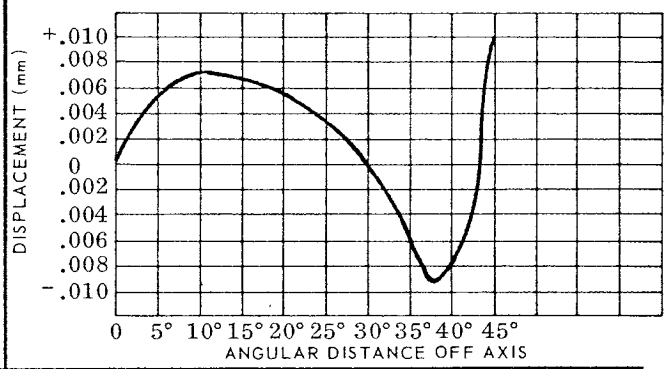
AWAR ____ L/mm

AWAR ____ L/mm

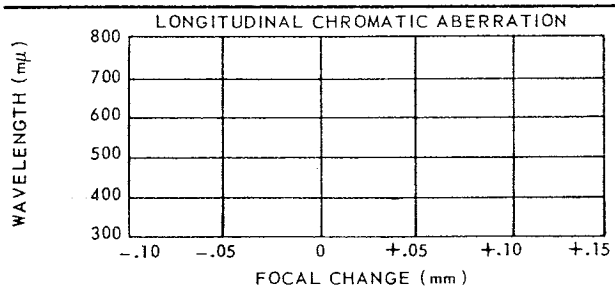
ASTIGMATISM AND CURVATURE OF FIELD



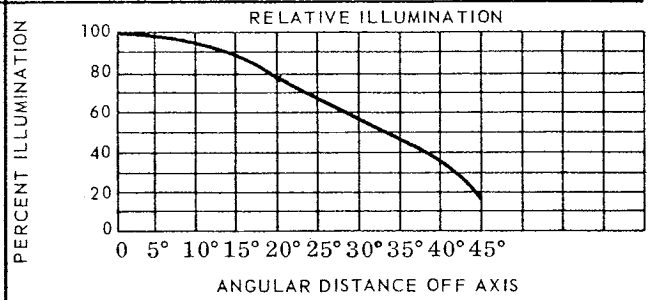
DISTORTION



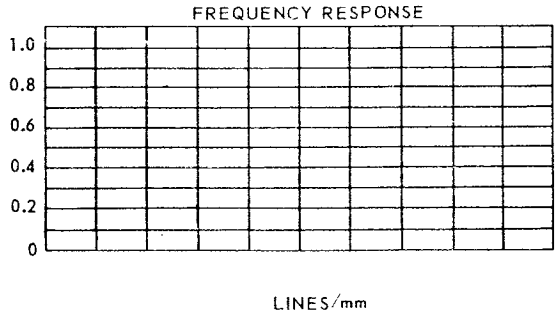
LONGITUDINAL CHROMATIC ABERRATION



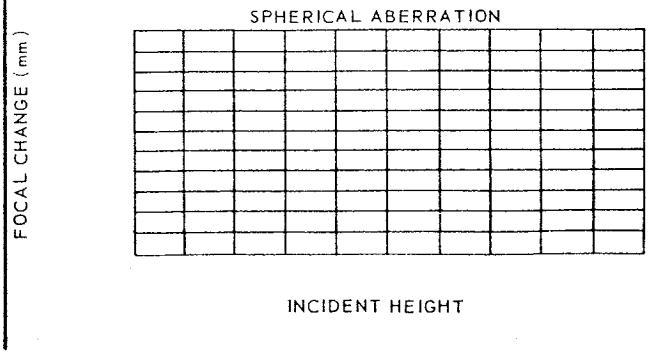
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

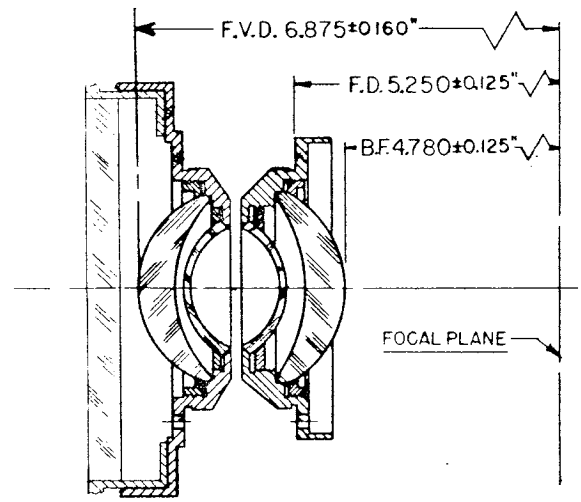
DATE
15 Sept. 1967

TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Metrogon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Bausch & Lomb, Inc.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION



E.F.L. 153 ± 2.5 mm APPROX. SCALE 2:1

CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (153 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 4.78 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 6.87	DISTORTION *(Maximum)* .12 mm
FLANGE FOCAL DISTANCE 5.250 in.	LENS CELL DIAMETER *(Maximum)* 4.75 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 2.48 in.
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

Used on the following aircraft cameras: T-11, T-11B

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Bausch & Lomb, Inc.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	7.5	15	22.5	27.5	30	32.5	35	37.5	40	42.5	45						

FILM Super XX TARGET CONTRAST High FILTER W-12

RADIAL	36	33	30	29	29	26	23	17	18	16	15	14						
TANGENTIAL	41	31	24	23	26	19	20	19	22	19	19	15						

AWAR 23 L/mm

FILM _____ TARGET CONTRAST _____ FILTER _____

RADIAL																		
TANGENTIAL																		

AWAR _____ L/mm

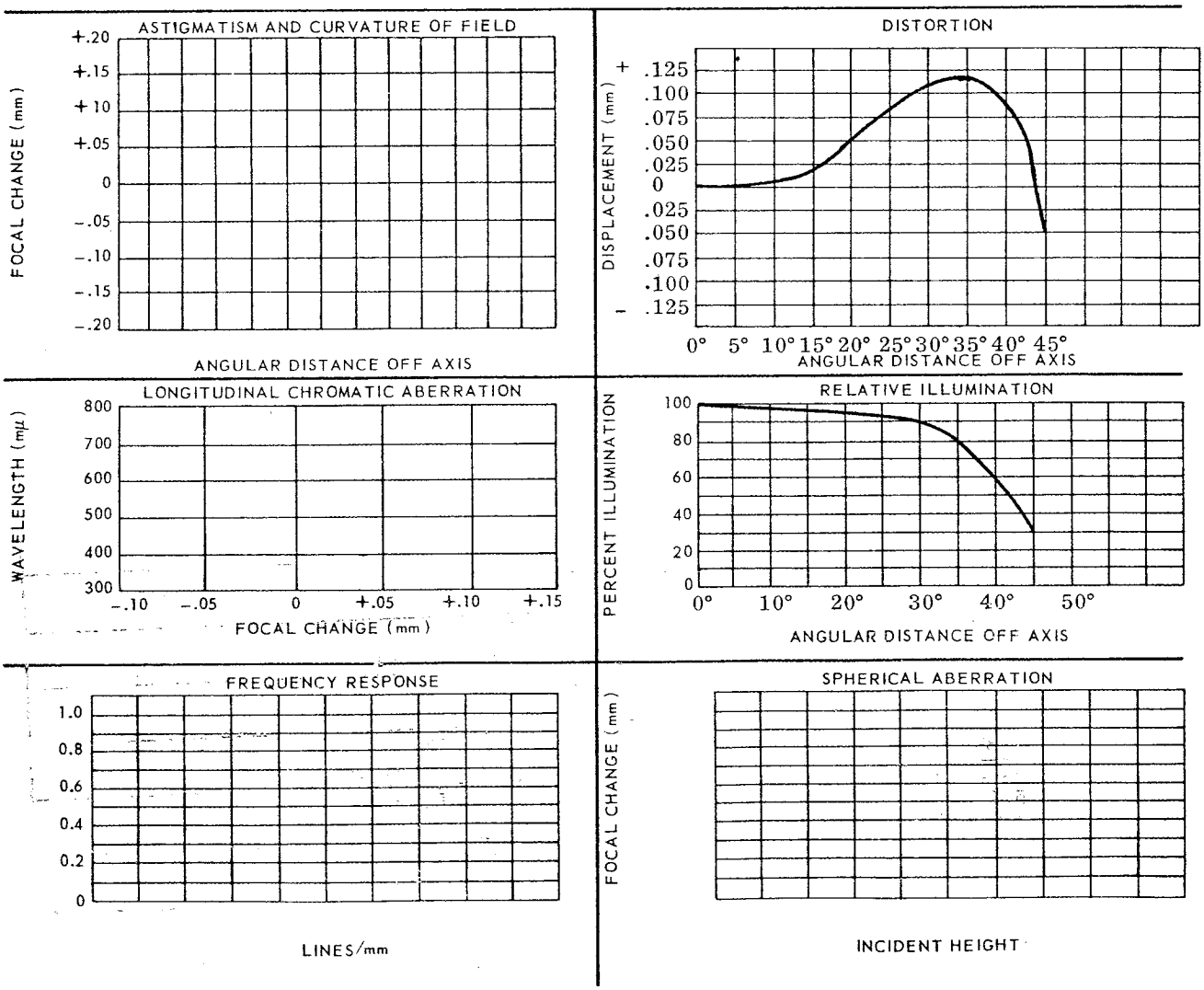
FILM _____ TARGET CONTRAST _____ FILTER _____

RADIAL																		
TANGENTIAL																		

AWAR _____ L/mm

VISUAL _____ TARGET CONTRAST _____ FILTER _____

RADIAL																		
TANGENTIAL																		



LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

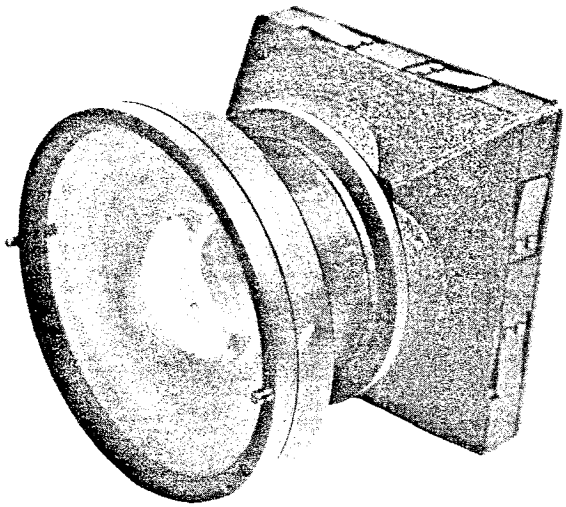
DATE
15 Sept. 1967

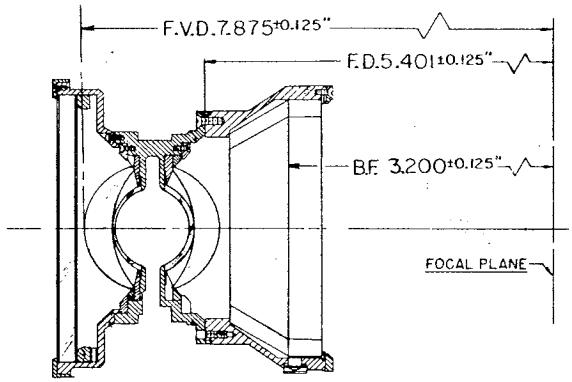
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Planigon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Bausch & Lomb, Inc.

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





E.F.L. 153 ± 2.5 MM

APPROX SCALE 3:1

CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (153 mm)	TRANSMITTANCE T-15
BACK FOCAL DISTANCE 3.2 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 7.875 in.	DISTORTION *(Maximum)* .025 mm
FLANGE FOCAL DISTANCE 5.401 in.	LENS CELL DIAMETER *(Maximum)* 5.50 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 4.675 in.
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

Used on the following aircraft cameras: KC-1, KC-1A

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Bausch & Lomb, Inc.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	7.5	15	22.5	27.5	30	32.5	35	37.5	40	42.5	45						

FILM Super X TARGET CONTRAST High FILTER W-12

RADIAL	36	36	28	31	31	25	23	18	17	16	18	18						
TANGENTIAL	36	39	32	30	26	29	29	25	28	26	28	25						

AWAR 26 L/mm

FILM SO-213 TARGET CONTRAST High FILTER W-12

RADIAL	80		72			58				54		52						
TANGENTIAL	70		58			52				42		30						

AWAR 53 L/mm

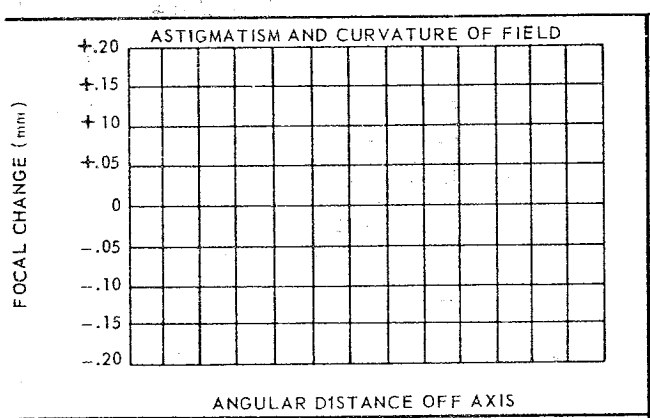
FILM _____ TARGET CONTRAST _____ FILTER _____

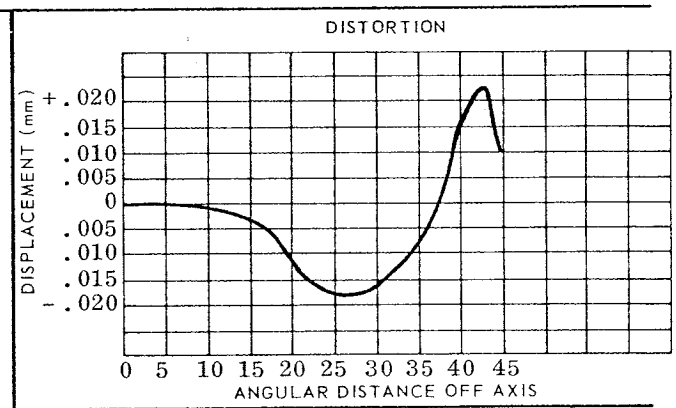
RADIAL																		
TANGENTIAL																		

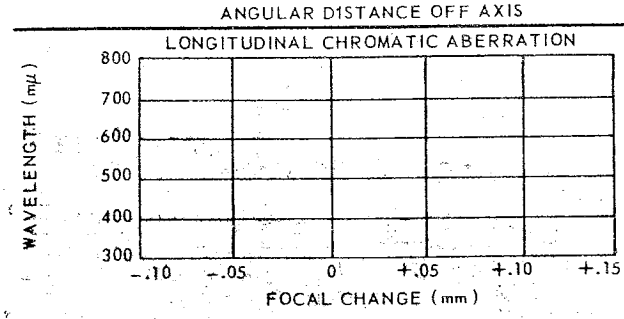
AWAR _____ L/mm

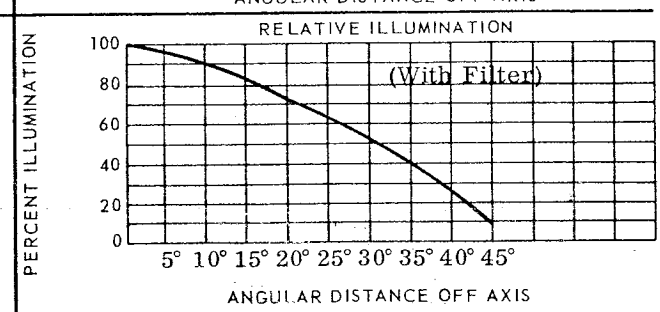
VISUAL _____ TARGET CONTRAST _____ FILTER _____

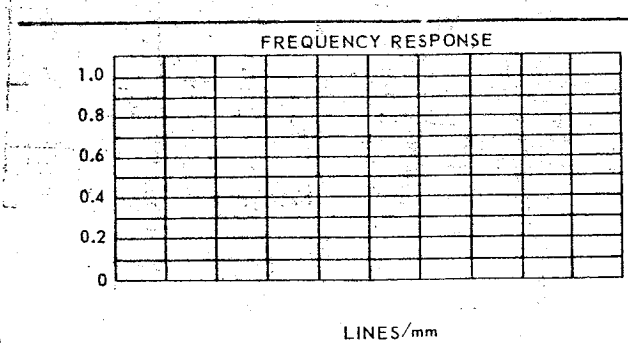
RADIAL																		
TANGENTIAL																		

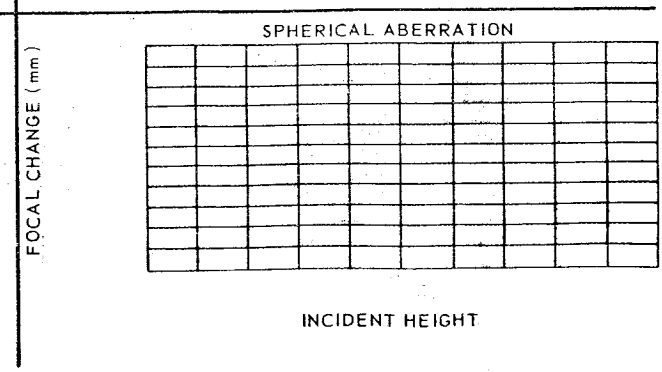












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

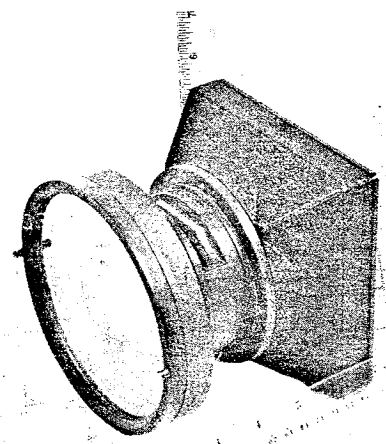
DATE
15 Sept. 1967

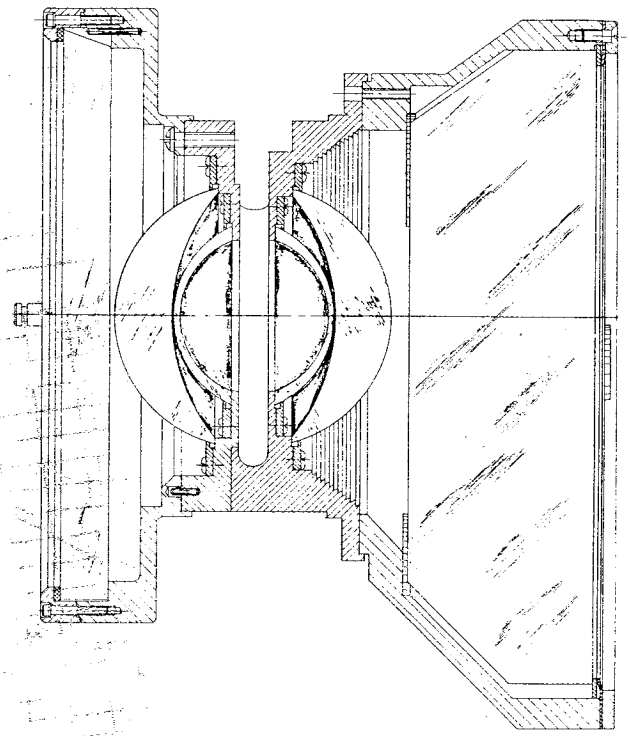
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Planigon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Fairchild (Curtis)

STOCK NO.	SPECIFICATION NO.	STATUS

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (153 ± 2.5 mm)	TRANSMITTANCE T-15
BACK FOCAL DISTANCE 3.2 in. ± .125 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 7.875 in.	DISTORTION *(Maximum)* .025 mm
FLANGE FOCAL DISTANCE 5.415 in.	LENS CELL DIAMETER *(Maximum)*
SEMI-FIELD ANGLE 45°	OVERALL LENGTH
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

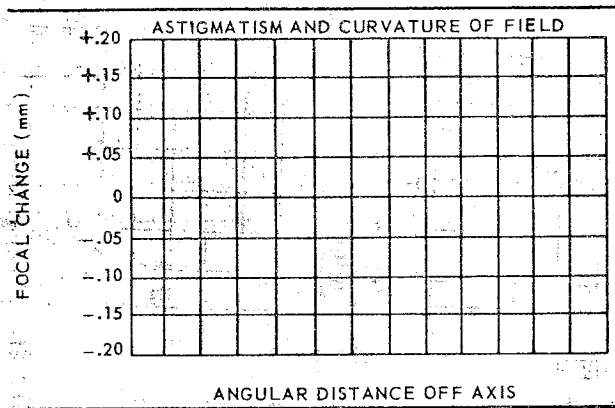
Used on the following aircraft cameras: KC-1, KC-1A

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Fairchild (Curtis)

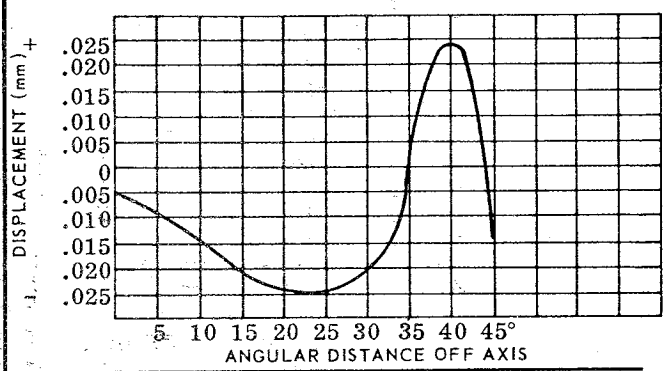
Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	7.5	15	22.5	27.5	30	32.5	35	37.5	40	42.5	45						
FILM Plus X, TARGET CONTRAST ____, FILTER W-12																		
RADIAL	31	31	25	20	21	20	18	18	15	15	15	15	10					
TANGENTIAL	31	30	28	22	22	24	21	24	22	22	21	21	19					
AWAR 21.6 L/mm																		
FILM Plus X, TARGET CONTRAST ____, FILTER W-12																		
RADIAL	52	35	25	26	25	23	29											
TANGENTIAL	52	37	33	28	17	15	15											
AWAR 26.2 L/mm																		
FILM ____, TARGET CONTRAST ____, FILTER ____																		
RADIAL																		
TANGENTIAL																		
AWAR ____ L/mm																		
VISUAL ____, TARGET CONTRAST ____, FILTER ____																		
RADIAL																		
TANGENTIAL																		

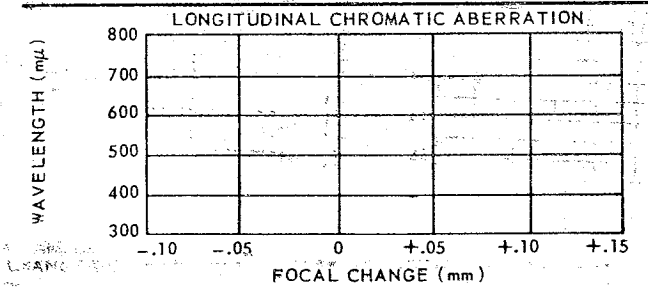
ASTIGMATISM AND CURVATURE OF FIELD



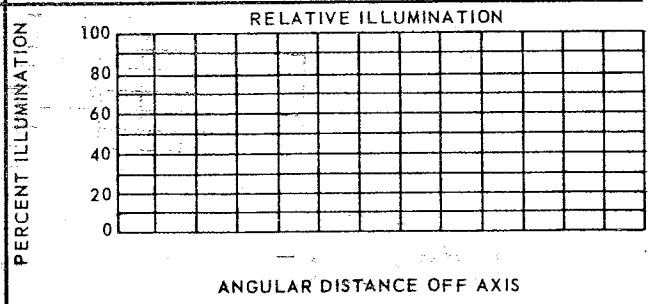
DISTORTION



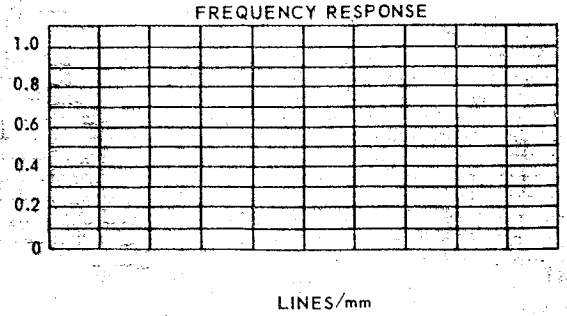
LONGITUDINAL CHROMATIC ABERRATION



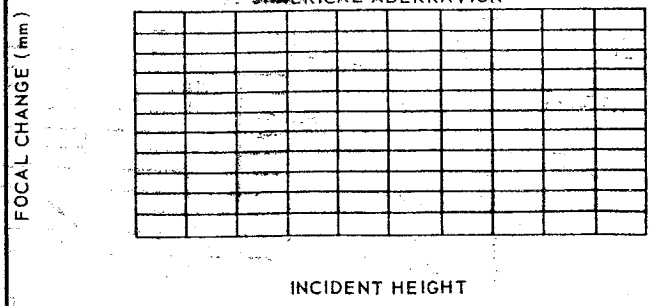
RELATIVE ILLUMINATION



FREQUENCY RESPONSE



SPHERICAL ABERRATION



LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

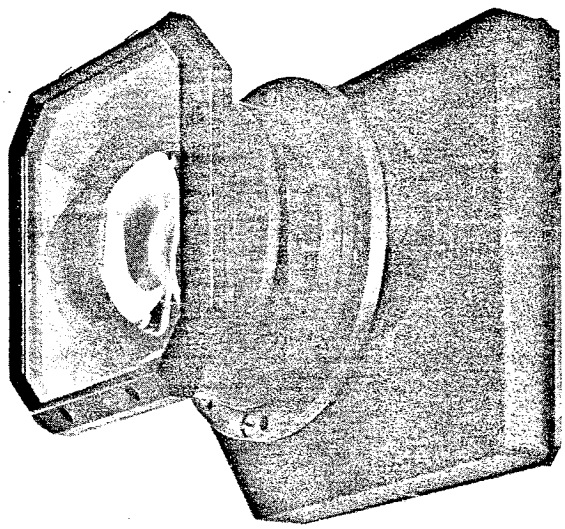
DATE: 15 Sept. 1967

TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Planigon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Fairchild Space & Defense Systems, El Segundo

STOCK NO.	SPECIFICATION NO.	STATUS
Fairchild P/N 12011-AD		Production

GENERAL DESCRIPTION



CHARACTERISTICS

EQUIVALENT FOCAL LENGTH: 6 in. (152.4 mm)	TRANSMITTANCE:
BACK FOCAL DISTANCE: 3.156 in.	COLOR CORRECTION:
FRONT VERTEX BACK FOCAL DISTANCE: 7.906 in.	DISTORTION *(Maximum)*:
FLANGE FOCAL DISTANCE: 5.401 ± .125 in.	LENS CELL DIAMETER *(Maximum)*: 5.875 in.
SEMI-FIELD ANGLE: 45°	OVERALL LENGTH: 5.125 in.
RELATIVE APERTURE: f/6.3	WEIGHT:

REMARKS:

Used on the following aircraft cameras: KC-1, KC-1A

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Fairchild Space & Defense Systems, El Segundo

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0		10		20		30		35		40		45					
FILM Plus X — TARGET CONTRAST High — FILTER W-12																		
RADIAL	46		55		52		44		33		26		44					
TANGENTIAL	46		44		41		31		29		21		30					

AWAR 36 L/mm

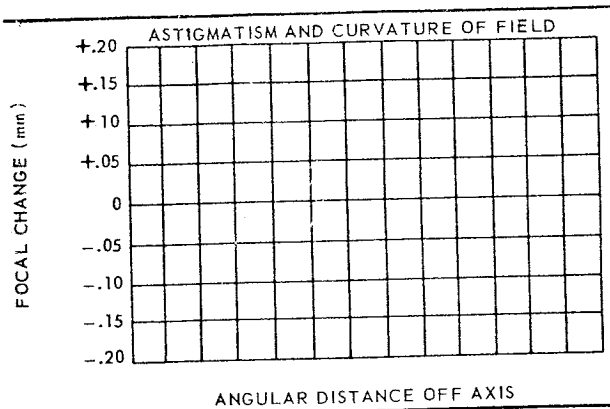
FILM ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		

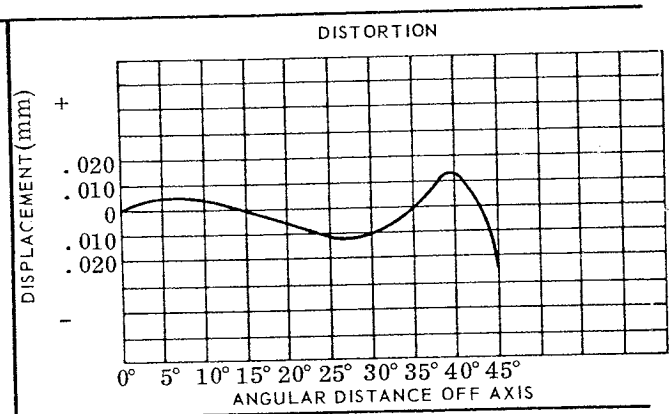
AWAR ____ L/mm

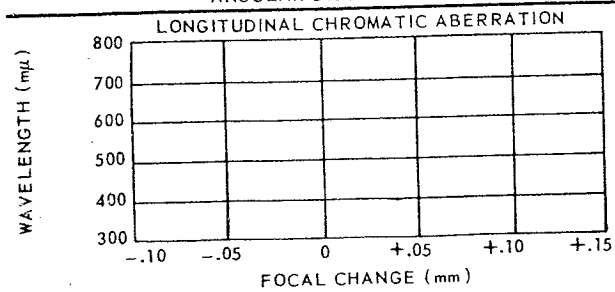
FILM ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		

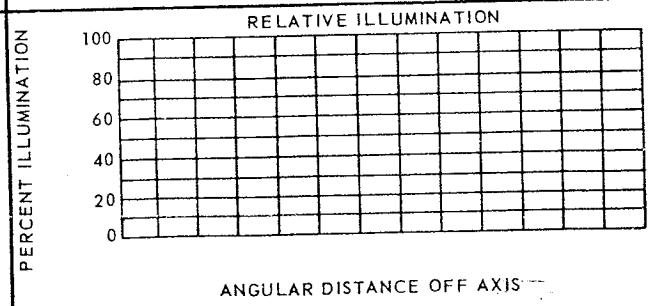
AWAR ____ L/mm

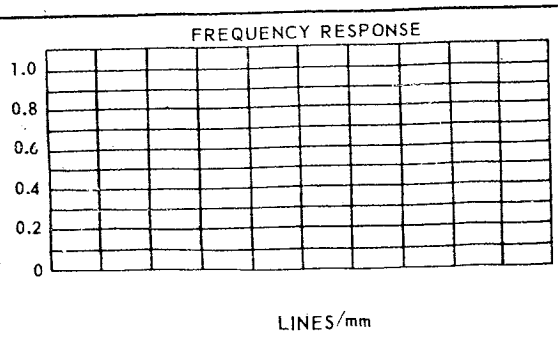
VISUAL ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		

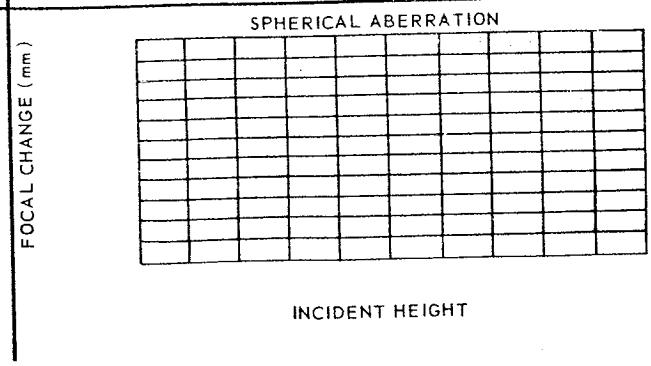












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

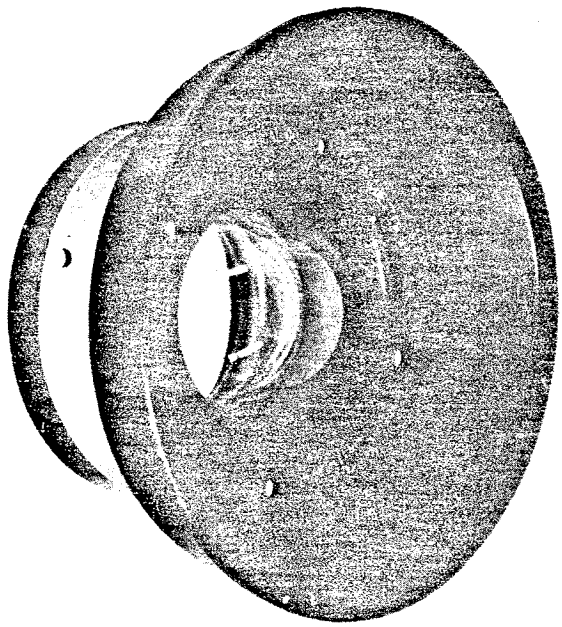
DATE
15 Sept. 1967

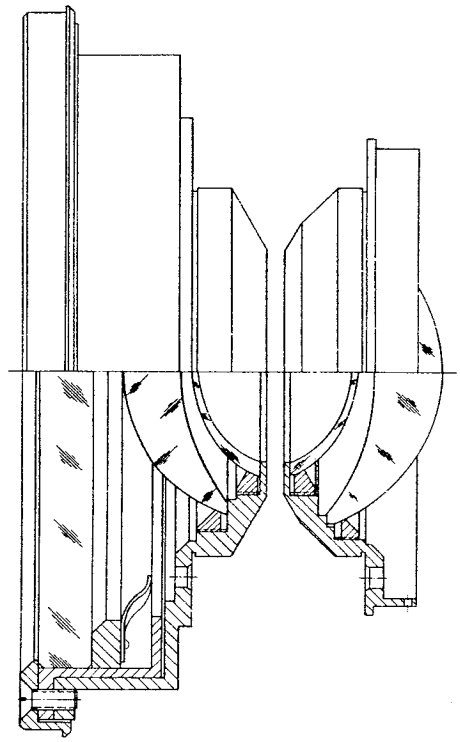
TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Metrogon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Goerz Optical Co. Inc.

STOCK NO.	SPECIFICATION NO.	STATUS
		Special Order

GENERAL DESCRIPTION





CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (154.5 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 4.797 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 6.875 in.	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 5.279 in.	LENS CELL DIAMETER *(Maximum)* 4.84 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 2.75 in.
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Goerz Optical Co. Inc.

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	10	20	30	35	40	45											
AVERAGE RADIAL AND TANGENTIAL	33	29	19	16	18	17	12											

FILM Super XX TARGET CONTRAST High FILTER W-12

AWAR 25 L/mm

RADIAL AND TANGENTIAL																		

FILM ____ TARGET CONTRAST ____ FILTER ____

AWAR ____ L/mm

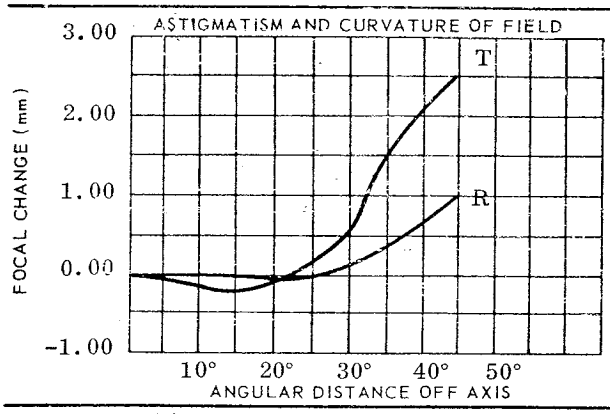
RADIAL AND TANGENTIAL																		

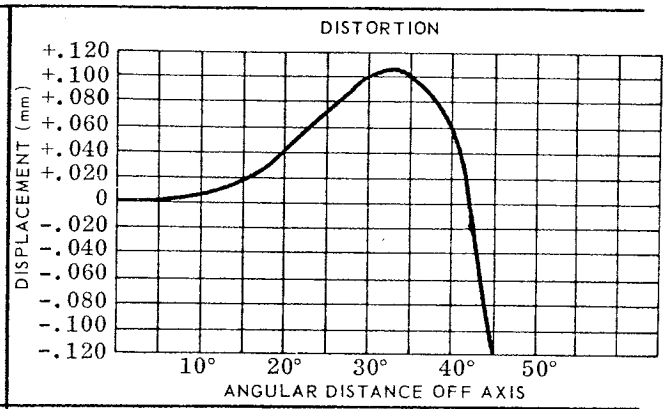
FILM ____ TARGET CONTRAST ____ FILTER ____

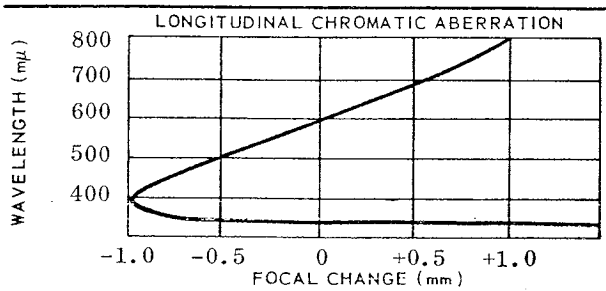
AWAR ____ L/mm

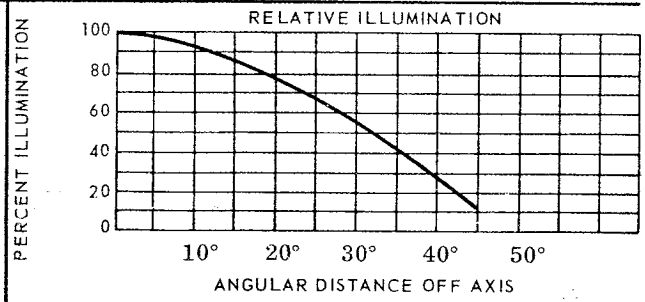
RADIAL																		
TANGENTIAL																		

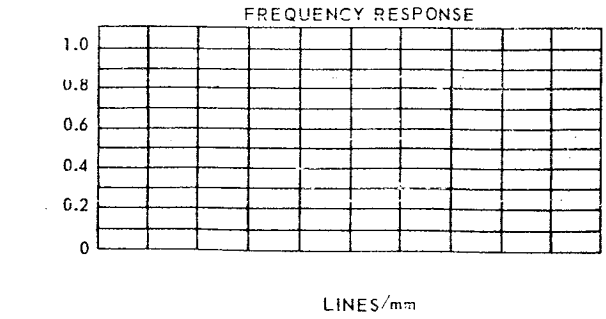
VISUAL ____ TARGET CONTRAST ____ FILTER ____

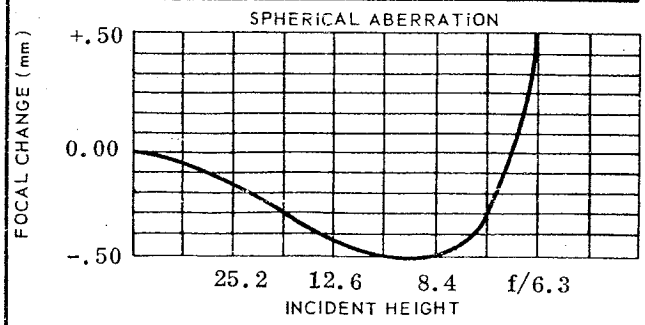












LENS DATA INFORMATION SHEET

(Reference MIL-STD-150A for definition of terms and methods of measurement)

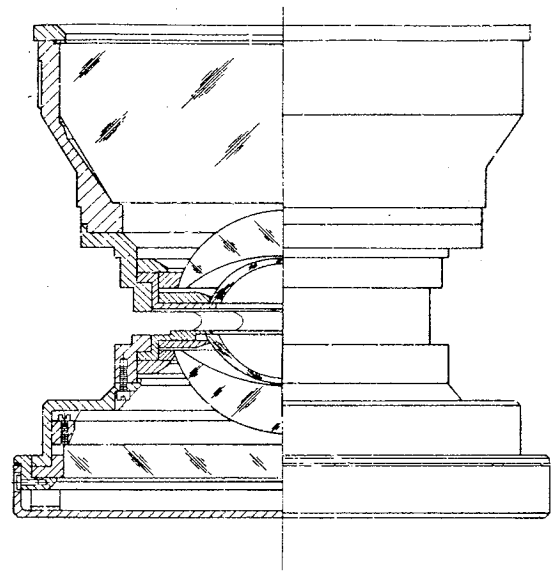
DATE

TYPE (MIL-STD-150A)	NAME
Type II Aerial Mapping	Planigon

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Goerz Optical Co., Inc.

STOCK NO.	SPECIFICATION NO.	STATUS
		Special Order

GENERAL DESCRIPTION



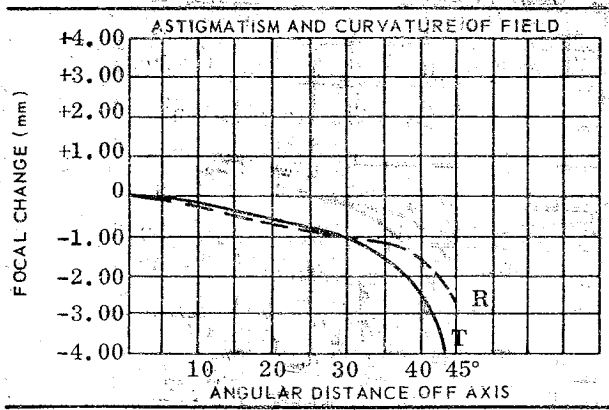
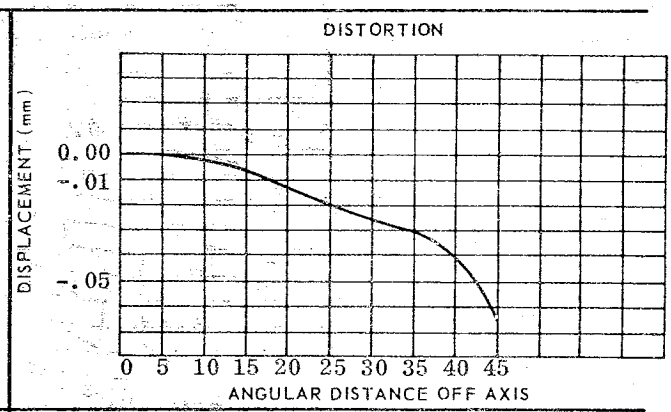
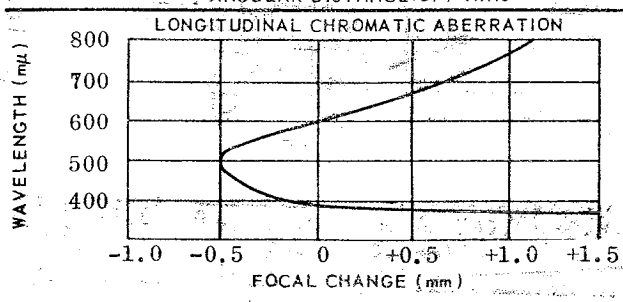
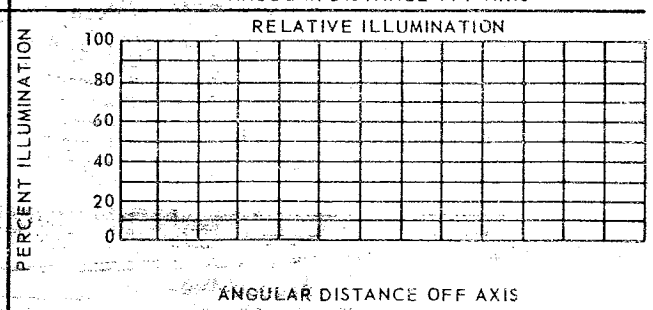
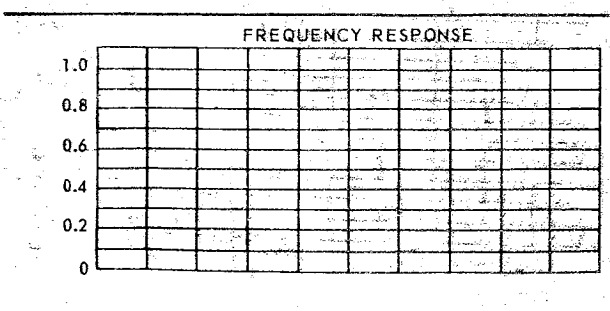
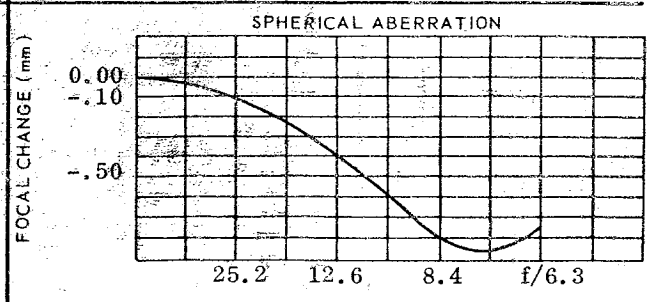
CHARACTERISTICS

EQUIVALENT FOCAL LENGTH 6 in. (150.91 mm)	TRANSMITTANCE
BACK FOCAL DISTANCE 3.139 in.	COLOR CORRECTION
FRONT VERTEX BACK FOCAL DISTANCE 7.812 in.	DISTORTION *(Maximum)*
FLANGE FOCAL DISTANCE 5.345 in.	LENS CELL DIAMETER *(Maximum)* 5.81 in.
SEMI-FIELD ANGLE 45°	OVERALL LENGTH 5.10 in.
RELATIVE APERTURE f/6.3	WEIGHT

REMARKS:

Used on the following aircraft cameras: KC-1A, KC-1B, KC-2, T-12, FS-500

FOCAL LENGTH	RELATIVE APERTURE	FORMAT	MANUFACTURER
6 in.	f/6.3	9 in. x 9 in.	Goerz Optical Co., Inc

Photographic Resolving Power in Lines /mm

FIELD ANGLE (°)	0	7.5	15	22	30	35	40	45										
FILM Super XX Aerographic TARGET CONTRAST High FILTER W-12																		
RADIAL	37	37	26	23	26	24	23	21										
TANGENTIAL	37	37	25	22	22	18	17	15										
AWAR 25 L/mm																		
FILM ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		
AWAR ____ L/mm																		
FILM ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL																		
AWAR ____ L/mm																		
VISUAL ____ TARGET CONTRAST ____ FILTER ____																		
RADIAL																		
TANGENTIAL